DISEASES OF THE SKIN

HENRY G. PIFFARD

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A PRACTICAL TREATISE ON DISEASES OF THE SKIN

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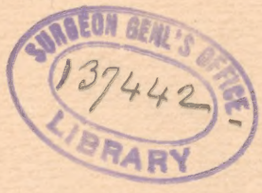
ASSISTED BY

ROBERT M. FULLER, M.D.

WITH FIFTY FULL PAGE ORIGINAL PLATES AND THIRTY-THREE ILLUSTRATIONS IN THE TEXT

"Screibe ich nicht den Hochgelehrten diss Büchlin | deñ sie sind der Kunst voll | Auch nie den unverstendigen Holtzlin | da man Sewtröge möcht aussmachen."
(APOLLINARIS, 1579.)



NEW YORK
D. APPLETON AND COMPANY
LONDON: CAXTON HOUSE, PATERNOSTER SQUARE
1891

Annex
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P627p
1891

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PREFACE.

In the following pages the author has endeavored to present his subject in the most practical manner and with the fewest possible words. To this end he has avoided all theoretical and controversial discussions, which are of interest to the specialist rather than to the general practitioner. He has also systematically omitted reference to the pathological histology of the skin, as our knowledge of this branch of dermatology is still in an extremely inchoate state, as will be seen by referring to the article on prurigo. The concluding article in the book deals with a subject the importance of which can not be overestimated. If the claim made by several foreign observers is substantiated, we are on the eve of a revolution in theoretical dermatology the practical outcome of which can not at present be foreseen.

The photographs from which the Plates were prepared were made by the author with the aid of artificial light, which his experience leads him to prefer for this purpose to ordinary daylight.

The illustrations in the text are in part from negatives by the author, and in part from some made by a professional photographer.

In conclusion, he desires to express his thanks to Dr. R. M. Fuller for the articles on anidrosis, dysidrosis, ichthyosis, and morphœa, and for the negative of Plate XXII.

New York, *January*, 1891.

Henry G. Piffard.

LIST OF ILLUSTRATIONS.

PLATES.

PLATE		TO FACE PAGE
I.	Eruption following the Ingestion of Chloral-Hydrate	12
II.	Symmetrical Gouty Eczema of the Limbs	40
III.	Eczema of the Palm.—Same, with Recurring Erythema	42
IV.	Eczema of the Sole with Fissures and Scales	44
V.	Psoriasis	46
VI.	Psoriasis	48
VII.	Psoriasis resembling Eczema	48
VIII.	Tumefaction of the Vulva following the Initial Lesion	50
IX.	Papular Syphilide	52
X.	Papular Syphilide	54
XI.	Squamous and Ulcerative Syphilitic Lesions	56
XII.	Syphilitic Ulceration	58
XIII.	Syphilitic Ulceration	58
XIV.	Syphilitic Dactylitis	58
XV.	Tubercular Leprosy	62
XVI.	Lupus erythematosus	64
XVII.	Lupus vulgaris	66
XVIII.	Photo-micrograph of a Thin Section of Lupus	68
XIX.	Epithelioma	72
XX.	Sarcoma	74
XXI.	Sarcoma	76
XXII.	Fibroma	78
XXIII.	Morphœa	82
XXIV.	Elephantiasis	84
XXV.	Elephantiases	86
XXVI.	Seborrhœa kerativa	88
XXVII.	Acne indurata	90
XXVIII.	Cicatrices following Acne	92
XXIX.	Photo-micrograph from a Thin Section of a Sebaceous Gland in Rosacea	94
XXX.	Vitiligo	96
XXXI.	Vitiligo	98
XXXII.	Scabies	100
XXXIII.	Phtheiriasis corporis	102
XXXIV.	Melasma in a Case of Phtheiriasis of Long Standing	102
XXXV.	Favus	108
XXXVI.	Tricophytosis barbæ	112
XXXVII.	Chromophytosis	114
XXXVIII.	Chromophytosis	114
XXXIX.	Dermatitis multiformis	116
XL.	Sudolorrhœa	120
XLI.	Photo-micrograph of a Thin Section of Eczema seborroicum	122

PLATE		TO FACE PAGE
XLII.	Erythema annulatum	124
XLIII.	Herpes labialis	126
XLIV.	Zoster	130
XLV.	Mammillitis maligna	134
XLVI.	Lichen planus	138
XLVII.	Lichen planus	140
XLVIII.	Ichthyosis	146
XLIX.	Alopecia areata	150
L.	Psorospermosis	156

ILLUSTRATIONS IN TEXT.

FIGURE		PAGE
1.	Erythematous Eczema of the Hand	20
2.	Psoriasis	46
3.	Initial Lesion of the Upper Lip	49
4.	Papular Syphilide	50
5.	Tertiary Syphilis	52
6.	Hereditary Syphilitic Ulceration	54
7.	The Patient shown in Fig. 6 after Seven Weeks' Treatment with Iodide of Iron and Protoiodide of Mercury	54
8.	Tubercular Leprosy	60
9.	Erythematous Lupus	63
10.	Lupus vulgaris	64
11.	Lupus vulgaris	65
12.	Epithelioma of both Upper and Lower Lips, following Erythematous Lupus	69
13.	Epithelioma	71
14.	Small Round-Cell Sarcoma	74
15.	Keloid	79
16.	Vitiligo	97
17.	Scabies on the Glans Penis	98
18.	Female Acarus	100
19.	Pediculus pubis	104
20.	Favus of Fifteen Years' Duration	105
21.	Favus in an Infant Six Weeks old	106
22.	Favus in a Mouse	107
23.	Trichophytosis	110
24.	Trichophytosis genito-femoralis	111
25.	Zoster of the Abdomen	128
26.	Zoster	129
27.	Impetigo Contagiosa	131
28.	Alopecia areata	148
29.	Alopecia areata	149
30.	Alopecia areata	150
31.	Photo-micrograph from a Thin Section of Psorospermosis	153
32.	Stratified Epithelial Pearl	155
33.	A Tubercle of Molluscum Contagiosum	156

DISEASES OF THE SKIN.

DIAGNOSIS.

CORRECT diagnosis of cutaneous affections is the foundation of successful therapeutics; but diagnosis, properly speaking, does not alone consist in giving the correct or approved name to the disease immediately under consideration, nor even in a careful differentiation of the special variety. It involves a broader knowledge, including a more or less complete acquaintance with the nature and relationships of the various affections. The mere naming of a disease is a comparatively easy matter, and of greatly inferior value to that more comprehensive knowledge that appreciates that the disease is not a distinct entity by itself, but is rather the result of a particular or peculiar pathological process in progress in a person with a given constitution or habit of body. An eczema in one may be the expression of ill-nutrition from privation or scanty supply of proper food, while in another it may be the result of a plethora due to excessive indulgence in the pleasures of the table. We may, it is true, apply the name eczema in both instances, on account of similarity of the lesions; yet the real condition of the two patients is almost diametrically opposite. In other words, in making a diagnosis in cutaneous pathology we must not be content with being able to simply give the systematic name that is applied to the particular lesion or group of lesions, but we should also be able to make a diagnosis of the patient as well.

As, however, it is of great importance that the disease should be correctly named, we will here consider the best and easiest means that will enable us to accomplish this end. Every disease is recognized by its symptoms, which may be either such as the patient can alone describe to us, or else those which are patent to us on inspection; or both sets of symptoms may be present.

The rational symptoms, or those which the patient discloses to us, may refer to the skin alone, or to other parts of the body as well. We will concern ourselves here, however, simply with such as relate to the integument itself, and which may be included under the general name of sensations. Thus, the skin may appear to the patient to be hot or cold, or it may itch, or there may be partial or total loss of sensation. These varied sensations may or may not be accompanied with physical changes in the skin that are apparent at the first glance. This association of rational and objective symptoms is often of the utmost importance, and may be one of the chief factors in enabling a correct diagnosis to be arrived at. Thus, loss of sensation in various parts of the skin may, taken by itself, lead our thoughts to some primary disturbance of some portion of the nervous system; but, if we find a number of reddish-brown tubercles associated with it, we immediately turn our thoughts to the possibility of the case being one of leprosy. On the other hand, tubercles somewhat similar in appearance, but not accompanied with lack of sensation, would perhaps suggest syphilis.

We must not, however, limit our inquiry to even these two sources of information. We must go further, or rather let the patient go further, and describe his surroundings and relations with others. He may perhaps exhibit a surface covered with scattered and torn papules and accompanied with severe general pruritus, and the case may on simple inspection appear to be one of papular eczema. If, however, the patient tells us that other members of his family suffer from the same disease—having apparently contracted it one from another—we may find on further investigation that we are dealing with a case of scabies. Thus we see that he who trusts to physical appearances alone is constantly liable to errors in diagnosis that might be avoided by making a wider and more comprehensive investigation.

Some by daily contact with this class of diseases may recognize at a glance the commoner or more striking varieties, but those who meet with them more rarely, and as incidents only of general practice, can not rely on the quick expert glance, but need some other means to enable them to arrive at the desired end. A botanist perfectly familiar with Northern flowers, plants, and trees, recognizes them on the instant in his customary rambles; but, if he is

transported to the rich luxuriance of the Southern flora, he continually meets with forms of plant-life which are new to him, and which he can not name on the instant. With, however, a good general knowledge of botany, and with the aid of his books, he is enabled by a process of analysis to determine in a few moments perhaps the exact name and variety of plant under examination. Just so the chemist, by means of analysis, ascertains and names the constituents of some mixture or compound that has been placed before him. In like manner the physician, with the usual general knowledge of medicine, can with a little patience arrive by analysis at the correct diagnosis of the great majority of cases of cutaneous diseases that he will encounter.

The older works on dermatology, and, in fact, many of the modern ones, afford us but little aid, however, in this direction. Eight or nine classes are established, dependent on certain physical appearances or lesions, and the various diseases are then referred to one or the other of these classes, according to the lesions which they are supposed to present. For instance, eczema and scabies are placed in the class of vesicular diseases, lichen in the papular, and acne in the pustular class. This is exceedingly simple, and would be a great help in diagnosis, were it not that eczema is a disease of varied lesion; of all the lesions of eczema, the vesicle is the one most rarely seen. So with many other affections. They may be characterized by the coexistence of more than one kind of lesion, or a succession of different lesions. Under these circumstances the reference of a disease to a single class is not only unscientific, but is decidedly misleading. If, however, we recognize the fact that many affections of the skin are polymorphic, and in classifying them include their names in all classes in which they may occur, we will find that this classification by lesions can be made exceedingly useful as an aid to diagnosis.

The first step in diagnosis is to obtain a clear and full understanding of the different lesions, so that their true character may be recognized at a glance. The principal lesions of the skin, and those which chiefly concern us in general diagnosis, are nine in number—viz., macules, vesicles, bullæ, pustules, papules, tubercles, scales, fissures, and ulcers. These may be defined as follows:

A *macule* is a small, circumscribed portion of skin, in which has occurred some alteration in its color, but without any secretion, effusion, infiltration, or

change in its thickness or consistence. The macule itself may be white from loss of pigment, red from congestion, or dark or black from increase of pigment.

A *vesicle* is a small elevation of the horny layer of the epidermis, by the effusion of a serous fluid.

A *bulla* is a larger elevation of the epidermis by a serous or sero-fibrinous effusion.

A *pustule* is an elevation of the epidermis, small or large, by a purulent exudation.

The common feature of these three lesions is a fluid exudation—serous, sero-fibrinous, or purulent—which lifts up a greater or less extent of horny epidermis, producing an elevation on the skin, and the lesion consists of an effused fluid, kept in bounds by a limiting membrane.

A vesicle, bulla, or pustule having formed, may further progress in one of several ways. After a few days the effusion may be reabsorbed without rupture of the epidermis, and leave nothing but a loosely attached scale, which soon exfoliates. On the other hand, the epidermis may rupture in a day or two, the effusion be poured out, and the whole dry up to a small crust, which in a few days more is wholly detached; or, still again, a vesicle or pustule may rupture promptly, but from the denuded surface a serous or purulent fluid may continue to exude for several days or even weeks.

A *papule* is a small, solid elevation of the skin. In this case the exudation into the skin is of a plastic character, mostly cells with but little fluid effusion—not sufficient, in fact, to produce a vesicle. A papule may disappear in a few days by absorption of the exudation, or may be gradually converted into a pustule; or may undergo ulceration, or may even persist without alteration almost indefinitely.

A *tubercle* is a solid elevation of the skin, larger than a papule, but agreeing with it in other respects, and capable of undergoing the same changes—namely, absorption, pustulation, ulceration, or indefinite prolongation.

Scales are collections of cells of the stratum corneum, which, instead of pursuing their usual and normal course, collect in undue number and quantity, and are loosely or firmly attached to the skin in more or less heaped-up masses. When these scales are small in size, loosely attached, like a fine powder or meal scattered over the surface, they are termed *farinaceous;* on the other

hand, when large, thick, heaped up, and firmly attached, they are called *furfuraceous.*

Fissures are solutions of continuity, and are characterized by varying length and depth, but with scarcely appreciable breadth. They rarely extend deeper than through the horny or Malpighian layers, though sometimes they penetrate the cutis vera. They are frequently accompanied with a scanty serous exudation.

Ulcers are solutions of continuity of three dimensions — namely, length, breadth, and depth. Their borders may be sharp cut and perpendicular to the skin, or may be sloping or overhanging, features which often afford a valuable clew to the origin of the lesion.

In addition to the above there are certain other lesions, some of which are secondary, while others are peculiar to certain special diseases, and will be described in connection with them.

With these definitions before him the student will be able, we think, after a little practice and study, to recognize them with accuracy and celerity; and when he is able to do so, the first and greatest difficulties in analytical diagnosis will have been surmounted. The next step is the reference of the special lesions found to the disease to which they relate; in other words, the actual making of the diagnosis of the special disease before him. To aid him in this respect, we here give a table of the lesions, with the principal diseases in which they are met with:

MACULES.—1. Chloasma. 2. Erythema. 3. Ephelis. 4. Lentigo. 5. Lentigo maligna. 6. Leprosy. 7. Leucoderma. 8. Lupus. 9. Nævus. 10. Purpura. 11. Rosacea. 12. Syphilis. 13. Xanthelasma.

The several macules which accompany the diseases above mentioned are by no means alike, and we believe it will facilitate diagnosis if their chief features are here noticed:

1. In chloasma the macule or discoloration is somewhat diffuse, occurring on the forehead and cheeks, and is of a brownish color.

2. Macules of varying size of a reddish color.

3. Macules of a yellowish to a dark brown, constituting the well-known freckles. Chiefly found on the exposed parts of the body.

4. Small, dark-brown macules scattered over the surface, on the covered as well as on the uncovered portions.

5. Very dark macules, from the size of a large pin-head to that of a pea, later becoming infiltrated, and sometimes ulcerating.

6. Brownish macules of varying size.

7. White or light-pinkish macules, surrounded by a dark border.

8. Minute reddish-brown or ham-colored.

9. Red or purplish, disappearing on firm pressure.

10. Red or purplish, not disappearing on pressure.

11. Rosy macules.

12. *a.* Reddish macules, appearing in early syphilis, chiefly on the chest, abdomen, and back. *b.* Macules resembling those of leucoderma, and met with about the neck in young women in the early period of the disease.

13. Yellowish macules, chiefly met with about the eyelids.

VESICLES.—1. Eczema. 2. Dermatitis multiformis. 3. Erysipelas. 4. Erythema multiforme. 5. Herpes. 6. Impetigo contagiosa. 7. Scabies. 8. Sudamina. 9. Varicella. 10. Variola. 11. Zoster.

The vesicles met with in the foregoing diseases exhibit the following characters:

1. In patches, minute and closely aggregated, and rupturing in a day or two, except where the epidermis is very thick.

2. Lesions of larger size and greater duration, and frequently accompanied with other lesions of a pustular character.

3. Lesions situated on a diffused inflamed base, usually on the face.

4. Associated with macules and patches of erythema.

5. One or more groups of three or four vesicles of moderate size, and not packed together so closely as in eczema. They usually last a few days, and dry down into a small scale or crust, except on the genitals, where they rupture promptly.

6. Medium-sized vesicles, lasting a few days and drying down to form crusts, occurring on any part of the body.

7. Small, pointed vesicles, usually met with on the hands and fingers.

8. Minute, disseminated vesicles, corresponding to the sudoriparous ducts.

9. Vesicles of medium size, which may or may not be umbilicated.

10. Umbilicated vesicles succeeding papules.

11. Vesicles of good size, seated on inflamed patches, and following the course of a nerve-trunk.

BULLÆ.—1. Erysipelas. 2. Leprosy. 3. Pemphigus.

1. The bullæ of erysipelas are in reality very large vesicles, seated on an inflamed base.

2. Large bullæ, usually solitary, and appearing at intervals.

3. Large bullæ, solitary, or in crops at intervals.

PUSTULES.—1. Acne. 2. Ecthyma. 3. Eczema. 4. Dermatitis multiformis. 5. Furuncles. 6. Scabies. 7. Syphilis. 8. Variola.

The characters of the lesions accompanying pustular diseases are briefly as follows:

1. Small, scattered pustules, resulting from the suppuration of papules, chiefly met with on the face, back, and chest.

2. Scattered pustules, of medium size.

3. Closely aggregated pustules, of small size.

4. Pustules associated with other lesions.

5. A pustule seated at the apex of an inflamed, painful, and slightly elevated spot.

6. Isolated pustules, especially frequent about the hands and wrists.

7. Pustules succeeding papules, or occurring without them.

8. Umbilicated pustules which follow vesicles, and which were preceded by papules, discrete or confluent.

PAPULES.—1. Acne. 2. Erythema multiforme. 3. Eczema. 4. Lichen simplex. 5. Lichen planus. 6. Lupus. 7. Milium. 8. Molluscum contagiosum. 9. Prurigo. 10. Rubeola. 11. Scabies. 12. Strophulus. 13. Syphilis. 14. Urticaria. 15. Variola. 16. Xanthelasma.

The peculiarities of the foregoing are:

1. Papules of varying size, chiefly met with on the face, shoulders, back, and chest, and frequently changing into pustules.

2. Grouped papules, most frequent on the extremities.

3. Scattered, or more or less closely aggregated, on the arms, inside of thighs, and elsewhere, frequently accompanied with scratch-marks.

4. Scattered papules, frequently met with over the entire surface.

5. Flat, umbilicated papules, greatly resembling those of a papular syphilide.

6. Persistent and gradually increasing in size; becoming tubercles, usually on the face.

7. Minute white papules on the eyelids and contiguous skin.

8. Umbilicated papules, containing a cheesy matter which may be pressed out, frequently pedunculated—in this respect differing from acne papules, which are not pedunculated.

9. Hard, and under or in the skin, not much elevated, and with little change in color of the skin; more easily felt than seen, and accompanied with scratch-marks.

10. Red papules, covering the entire surface, and accompanied with febrile symptoms.

11. Small papules, usually accompanied with other lesions, and generally with their apices scratched off.

12. Red papules, in infancy only.

13. More or less generalized reddish or copper-colored; may degenerate into pustules, or become covered with a fine scale.

14. Large papules, lasting a few hours only, but succeeded at short intervals by others, and accompanied with sharp pruritus.

15. Discrete or confluent, changing into vesicles, and later into umbilicated pustules; usually accompanied with severe general symptoms.

16. Yellowish and slightly elevated, most frequent about the eyes, but may occur elsewhere.

TUBERCLES.—1. Acne. 2. Fibroma. 3. Frambœsia. 4. Keloid. 5. Lentigo maligna. 6. Leprosy. 7. Lupus. 8. Morphœa. 9. Rosacea hypertrophica. 10. Syphilis.

1. Tubercles on face, back, etc., with inflamed bases, and usually terminating with suppuration.

2. Single or multiple, and scattered over all parts of the body.

3. Fungous tubercles, frequently of large size—very rare.

4. Flat tubercles, or flattened elevations of the skin, with projecting finger-like processes.

5. Commencing as macules, becoming papules, and afterward tubercles, frequently with ulceration.

6. Reddish-brown tubercles on the forehead, ears, and other parts of the face and body.

7. Solitary or but few reddish-violet tubercles, of very slow increase, and terminating with ulceration.

8. Flat, light-colored tubercles, followed by atrophy, from one to a dozen—rarely more.

9. Confined to the nose.

10. Copper-colored, terminating with suppuration or ulceration. In early syphilis, numerous; in late syphilis, number of lesions limited, and occurring in groups.

SCALES.—1. Dermatitis exfoliativa. 2. Eczema. 3. Ichthyosis. 4. Lupus erythematosus. 5. Pemphigus foliaceus. 6. Pityriasis simplex. 7. Pityriasis rubra. 8. Psoriasis. 9. Syphilis. 10. Trichophytosis capitis.

1. Large scales, consisting of flakes of horny epidermis; sometimes several inches in extent.

2. Medium size, scales occurring in the last stage of the disease, and frequently preceded by exudation and crusting.

3. Very adherent thick scales, the disease commencing in early life and continuing indefinitely.

4. Very fine adhering scales, situated on a reddened, infiltrated base.

5. Large scales, due to imperfect formation of bullæ.

6. Fine white scales on a surface but little affected otherwise, and readily exfoliating.

7. Fine scales on a reddened surface, usually generalized.

8. Thick, adherent, imbricated white scales on a reddened infiltrated surface, more or less generalized.

9. Small scales at the summit of papules, or thicker and larger on reddened infiltrated surface, more or less generalized.

10. Fine scales among hair-stumps on round patches.

FISSURES.—1. Eczema. 2. Leprosy.

1. Especially at flexor aspect of joints, palms of the hands, and soles of the feet.

2. Especially at extensor aspect of small joints or between them, and usually accompanied with anæsthesia.

Ulcers.—1. Carcinoma. 2. Lupus. 3. Scrofula. 4. Syphilis. 5. Simple.

1. Ulceration on the elevated surface of a carcinomatous tumor; underlying tissues hard.

2. Ulceration following one or more tubercles, sometimes becoming carcinomatous.

3. Irregular and uneven, frequently with overhanging margins.

4. Round or ovoid, with straight "punched-out" margins.

5. Round or oval, with sloping margins.

Tumors.—1. Carcinoma (epithelioma). 2. Elephantiasis. 3. Fibroma. 4. Papilloma. 5. Sarcoma. 6. Steatoma.

1. Usually solitary, hard, and terminating by ulceration.

2. Sometimes immense tumors of the genitals, which in rare instances have reached the weight of one hundred pounds.

3. Solitary or multiple, of varying size, sessile or pedunculated, without tendency to ulceration.

4. Warty tumors, of varying size and number.

5. Soft, "flêshy" tumors, bleeding readily; usually solitary, unless accompanied with melanotic deposit.

6. Enlarged sebaceous glands, with retention of secretion.

With the foregoing list of diseases and lesions, and with their chief peculiarities visible at a glance, there should be but little difficulty in working out an analytical diagnosis in the great majority of cases of cutaneous disease. We would, however, advise the student to pursue the following course: First, determine the predominant lesion, then turn to the list of diseases which are characterized by that lesion, and see how closely the descriptions there given agree with the appearances presented; and, when a choice is made, carefully read the description of the disease itself as found in later pages of the book. Should the disease in question present more than one lesion, examine the lists of diseases under each lesion, and proceed as before. Several years' experience in teaching dermatology has satisfied the writer that the pursuit of the method here laid down will enable the student to become a prompt and correct diagnostician in a

surprisingly short time. He will, of course, meet with cases in which he will not succeed, but he should remember that cases not infrequently occur which puzzle even the most expert.

The subject of diagnosis, however, can not be dismissed without allusion to certain eruptions or rashes that arise, not spontaneously, but after the ingestion of certain drugs that have been administered for other diseases. As we encounter in these medicinal rashes lesions similar to many of those met with in ordinary disease, I have made a brief digest of them, referring the reader for more detailed information to Dr. P. A. Morrow's Drug Eruptions (New York, 1887), and to the author's Materia Medica and Therapeutics of the Skin (New York, 1881):

Erythema and macules may be met with after the administration of carbolic and salicylic acids, aconite, antipyrin, arsenic, belladonna, the bromides, cantharis, capsicum, chloral, cinchona derivatives, copaiba, digitalis, hyoscyamus, the iodides, iodoform, opium derivatives, and sulphur.

Papules, after antipyrin, belladonna, the bromides, cantharis, chloral, cinchona derivatives, copaiba, the iodides, iodoform, and santonin.

Vesicles, after aconite, tartar emetic, arsenic, the bromides, cinchona derivatives, cannabis indica, chloral, copaiba, the iodides, iodoform, santonin, and sulphur.

Bullæ, after arsenic, the bromides, cinchona derivatives, copaiba, and phosphorus.

Pustules, after tartar emetic, arsenic, the bromides, and the iodides.

Wheals, after arsenic, the bromides, chloral, cinchona derivatives, copaiba, digitalis, hyoscyamus, the iodides, and santonin.

In other words, the following-named drugs have been known to give rise to the lesions which follow their titles, viz.:

Acid, Carbolic.—Erythema.

Acid, Salicylic.—Erythema, vesicles, papules, and wheals.

Aconite.—Erythema and vesicles.

Antimony.—Vesicles and pustules.

Antipyrin.—Papules.

Arsenic.—Erythema, papules, vesicles, bullæ, pustules, and wheals.

Belladonna.—Erythema.

The Bromides.—Erythema, vesicles, bullæ, pustules, papules, tubercles, and wheals.

Cannabis Indica.—Vesicles.

Chloral.—Erythema, papules, vesicles, and wheals.

Cinchona Derivatives.—Erythema, papules, vesicles, and wheals.

Copaiba.—Erythema, papules, vesicles, bullæ, and wheals.

Digitalis.—Erythema and wheals.

Hyoscyamus.—Erythema and wheals.

The Iodides.—Erythema, papules, vesicles, pustules, and wheals.

Iodoform.—Erythema, papules, and vesicles.

Phosphorus.—Bullæ.

Santonin.—Papules, vesicles, and wheals.

Sulphur.—Erythema and vesicles.

PLATE I. Eruption following the ingestion of chloral-hydrate.

PATHOLOGY.

The pathology of the skin presents no essential differences from the pathology of other parts of the body—that is, the same morbid processes that are met with elsewhere also find expression in the dermal tissues. For instance, congestion, inflammation, hypertrophy, atrophy, œdemas, infiltrations, degenerations, neoplasms, pseudoplasms, nervous derangements, etc., are the processes which result in the production of the various lesions that constitute the essential visible characteristics of cutaneous disease. In addition we have certain parasitic invasions, of both animal and vegetable origin. The complex structure of the skin, and of the special organs contained in it, together with the anatomical peculiarities of the appendages, give rise to an almost infinite variety of changes, the recognition and classification of which will be considered in connection with the question of diagnosis.

PLATE I.

TREATMENT.

The general question of the treatment of diseases of the skin involves the consideration of the different and several indications, and of the means at our command for the fulfillment of these indications. Before, however, we can properly appreciate the special features appertaining to any one given morbid condition, it is better to devote a little time to the discussion of the general factors which lead to the development of cutaneous disease; in other words, to consider the question of etiology.

Primarily it may be stated that cutaneous lesions are due to influences or forces from without, or from those which exist or arise within the body. To the former class may be assigned such as depend on temperature and climate, such as are due to traumatisms of various kinds, such as result from various parasitic invasions, etc. This is in reality but a limited class; on the other hand, the etiological factors which arise within the body itself are very numerous. We will, however, first consider the external causes. Excessive heat or direct exposure to the sun may excite undue activity of the sudoriferous glands, and result in the production of *sudamina*, or the extremely annoying papular affection known as *lichen tropicus;* or to an erythematous or even vesicular inflammation, commonly known as sunburn; or to the more trivial affection called *ephelis*, or freckles. Excessive cold may result in absolute congelation of exposed portions of the integument, followed by death and sloughing off of the parts; or a less degree of cold may excite the condition known as *pernio*, or chilblains, or in some persons produce chapping or fissuring of the skin; or, by depressing the general vitality, promote an outbreak that otherwise would not have occurred. Of the animal parasites that may infest the body, the different varieties of *pediculi*, or lice; the *acarus*, or itch insect; the *leptus*, etc., produce affections more or less annoying, but usually readily removable. On the other hand, the infinitely minute and to the naked eye invisible parasites of vegetable origin, as the *achorion* and the *trichophyton*, give rise to affections which are exceedingly tenacious, and sometimes well-nigh incurable.

The internal causes of cutaneous disease, however, are far more frequently in operation, and are far more important than those of external origin. In this class

we may place those affections of the skin which are due to pre-existing lesions of some part of the nervous system, as, for instance, *zoster*, which results from an anterior lesion of the ganglion attached to the posterior root of a spinal nerve; or some of the lesions of *leprosy*, which succeed certain degenerations of the spinal cord. The nervous system, however, may be in a perfectly sound condition, and yet act as the medium for the transmission of some internal irritation to the surface: thus, the gastric irritation resulting from the ingestion of shell-fish may manifest itself chiefly on the skin in the form of *urticaria*, or a chronic irritation of the pelvic viscera may be the active cause of *rosacea*. Again, cutaneous lesions may be due to internal changes which have in turn arisen from external causes, as, for example, the cutaneous manifestations of *syphilis*, which are due to an internal dyscrasia produced by the entrance into the body of a certain form of morbific matter from without. Leprosy may be placed in the same category.

Still another internal cause of cutaneous lesions will be found in that condition of ill nutrition or imperfect assimilation known as scrofula or *struma*.

Finally, we may have external lesions resulting from the accumulation in the blood of certain *materies morbi*. Most of the so-called medicinal rashes are due to this. Or, again, we may see the materies morbi *generated* within the body itself through imperfections in the digestive, assimilative, or excretory functions. As a matter of fact, I believe that fully one third of the cases of cutaneous disease which come under the physician's eye are due to this last-named cause. If this be true, a somewhat brief consideration of this topic will not be out of place at this point. The writer advanced certain views on this subject, some fifteen years ago, to the effect that certain cutaneous affections, notably *eczema*, resulted from the accumulation in the blood of some *materies peccans*, which was formed in the tissues or the blood as a result of imperfect oxidation; and that the causes of this imperfect oxidation lay in the failure of the liver to perform its full duty as an oxidizing organ. The complete argument on these points I have given elsewhere,* and it need not be here repeated.

Whatever be the causes of the various cutaneous affections, we are here chiefly concerned with the means that the physician has at his command with

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* Elementary Treatise on Diseases of the Skin, 1876.

which to treat them successfully. First of these is hygiene. It goes without saying that recovery is facilitated by the substituting good hygienic surroundings for bad ones; and under this head we may include fresh air, wholesome food, cleanliness, exercise, and seasonable clothing. It is hardly necessary to go into details on these points, if the fact is recognized and remembered; and in all chronic affections of the skin, and in some of the acute ones, these matters should be inquired into, and corrected when possible. Our resources further include mechanical, chemical, and pharmaceutical remedies, and also electricity. An elastic bandage applied to an old, infiltrated eczema of the leg is an illustration of the first; an active caustic applied to an obstinate ulcer may be considered as an example of the second; but by far the largest proportion of remedial agents will be found in the pharmaceutic division. It is among these, indeed, that the greatest improvements have been made during the past fifteen or twenty years. The pharmaceutic class embraces remedies used both internally and externally. It is within the recollection of many physicians that the internal therapeutics of cutaneous diseases hinged almost entirely on the exhibition of three drugs—namely, mercury, arsenic, and sulphur—one or the other of which was given in almost every case. We now know that there are many other drugs—sulphide of calcium, the alkalies, diuretics, cod-liver oil, etc.—which may be used to the very greatest advantage. It is, however, in our external applications that the chief improvements have been effected. Formerly lotions and ointments were almost the only means of making external applications, but within recent years we have learned the value of collodion, of solutions of gutta-percha ("*traumaticin*"), mixtures of gelatin with glycerin, starch, etc., plasters and other bland compounds and mixtures, as excipients for the drugs that we desire to bring into direct contact with the diseased parts.

Electricity, also, as a destructive agent (*electrolysis*), or as a modifier of local nutrition, or as an excitant of reflex action, plays a by no means humble part in the treatment of these diseases.

With all these agencies at our command, it would seem strange if the therapeutics of skin disease had not made progress in the last few years, and such indeed it has; and it may be safely asserted that success in treatment is vastly more assured than it was twenty years ago. It would be greater still if physi-

cians would give as much thought and care to the study of these affections as they do to others. They should not be content with the mere diagnosis and naming of the disease, but should study the peculiarities of each case, and the influence exerted by the general health or condition of the patient on the special lesions in question. It must be remembered, however, that the book has not yet been written that contains all that is useful in dermatology, and the physician's library should contain many volumes on this subject, as he will often find in one what is wanting in another.

ECZEMA.

DESCRIPTION.—An accurate and at the same time concise description of eczema is impossible, in view of the fact that the disease presents so many forms and phases, and that of a dozen consecutive cases no two may look alike, or even bear what ordinarily would be termed a family resemblance. These differences are due to the occurrence of lesions which may be quite dissimilar in character and appearance, and combined in ways and proportions almost without number. The aspect, too, of the individual lesions varies somewhat with the location they occupy, the degree of activity they present, and the length of time they have lasted.

The varieties of eczema dependent on the primitive or characteristic lesion are six in number—namely, erythematous, vesicular, pustular, nudose, papular, and fissured; and these in their progress may undergo changes and become complicated with or give place to certain secondary lesions.

The varieties of eczema dependent on the activity of the process may be classed as acute and subacute, while those that run but a short course may also be termed acute, and those of longer duration chronic.

Location greatly influences the appearances presented by eczematous lesions, and the principal modifications met with in this connection are those seen on the scalp, face, hands and feet, genitals, and about the anus. Eczema may also invade the follicular apparatus of the skin, and give rise to an eczematous affection of the hair-follicles and of the sebaceous glands.

We will best understand the appearances presented by this protean malady

if we trace the course of a simple acute eczema of the general surface. It commences with a local congestion, or erythema, followed in a few hours perhaps by a crop of minute, closely aggregated vesicles filled with a clear, transparent serum. It often takes a sharp eye, and even a lens, to distinguish their separate contours. When closely examined, we find them to consist of a very thin and delicate epidermic covering which for a brief period retains the lymphy exudation that is seeking an exit. Rubbing, scratching, or other violence from without, or the pressure of the exudation from within, soon ruptures the epidermis, and usually in twenty-four or thirty-six hours the vesicles have disappeared, and we find in their place a red and exposed surface more or less moist with exudation. If exposed to the air, the watery portions of the exudation evaporates, and light, straw-colored crusts remain. As the exudation continues, the crusts thicken until they drop off, or are purposely removed. After a varying period (days or weeks, as the case may be) the exudation diminishes, the crusts lessen or cease to form, and Nature makes an attempt to cover the part with a new layer of horny epithelial cells. It may be weeks before this effort is entirely successful, and the affected surface presents in the interval a reddened and somewhat glossy surface scantily covered with loosely attached scales of small size, the scales being composed of embryonic horny cells which have not yet attained a normal character and consistence. Those first formed are less viable than the normal cell, and are quickly shed, to be replaced by others of more natural character and aspect, until finally we find a complete regeneration of the epidermis, and a return to the condition which existed before the appearance of the attack. In eczema pure and simple we never have ulceration or loss of tissue, and recovery takes place without the least trace of scarring.

For practical convenience the course described above may be divided into three stages: the first being that of congestion and vesicle formation, the second that of exudation and crusting, and the third that of dryness and scaling.

The *pustular* variety of eczema pursues the same course and passes through the same stages as the vesicular, and differs from it only in the character of the exudation and the color of the crusts in the second stage. Instead of a transparent, lymphy exudation we have a purulent one, and the crusts are of a greenish color. In the vesicular form the number of leucocytes in the exudation is lim-

ited, while in the pustular they are abundant. The third stage of both varieties is identical, and if a case be seen in this stage it is impossible to determine, except perhaps by the patient's recital, whether the eruption had been characterized by vesicles or pustules.

The *nudose*, or exfoliative form, differs from the preceding varieties by the fact that neither vesicles nor pustules are observed, but instead a rapid loosening and exfoliation of the horny layer over the whole or greater part of the affected area. The succeeding exudation may be serous, sero-purulent, or purulent, and crusts form, as already described. In the second and third stages the appearances are the same as those presented by the two first-named varieties.

In the *papular* variety an area of congestion becomes the seat of small scattered or aggregated papules, with little if any tendency to exudation, unless the papules be wounded by scratching. In this case a small quantity of lymph may exude and dry into a minute scale or lamina. The papules after a time subside and the surface becomes somewhat glossy and scaly, but not to the extent met with in the varieties already described. The arms and forearms, and the thighs and legs, especially the flexor aspects, are the favorite seats of papular eczema, although it is sometimes met with on the face.

In the *fissured* variety we have a more or less reddened surface without vesicles, pustules, or epithelial exfoliation, but instead presenting small cracks or fissures extending through the stratum corneum, and sometimes through the stratum Malpighii as well. Exudation is slight, crusting is absent, and the skin after a time returns to the normal condition by simply closing of the fissures and disappearance of the congestion. The palms and soles are the favorite seats of this variety.

The *erythematous* variety is characterized simply by a red and congested patch of varying extent, and is not accompanied with vesicles, pustules, papules, or the other lesions of the disease.

Cases of eczema vary in respect to the grade of inflammation present. In one it may exhibit great activity and be accompanied with decided heat, high color, and other evidences of marked inflammatory action, in either the first or second stages or in both; and this activity may continue for an indefinite period, and until the case prepares to enter the third stage. On the other hand, the

natural color may be but slightly altered, the increase of local heat be almost inappreciable, and the general process partake of a subacute character from the beginning. In other cases, again, an eruption which is subacute may at any stage of its progress suddenly assume an acute phase, or there may be frequent alternations of activity and comparative quietude. This is a very striking feature of eczema, and one that should always be borne in mind. A case may be progressing nicely under treatment, and with the prospect of early recovery, when suddenly the trouble may relapse into its previous active state, and often apparently without sufficient provocation.

The *duration* of eczema varies. In some cases it may run its course in a few days or weeks, while in others it may be prolonged for months or years, constituting the *chronic* form of the affection; or, again, there may be frequent relapses, even after complete disappearance of the individual attacks.

The *location* of an eczema greatly influences its appearance, and exhibits also preference for certain varieties of lesion. Thus, in eczema of the scalp, especially in infants and children, the process is usually acute, with profuse lymphy or purulent exudation, which mats the hair together in a tangled mass, offensive to both sight and smell. If by chance pediculi find lodgment in such a scalp, they multiply rapidly, and by their irritation increase and aggravate the trouble. If proper care and cleanliness are not practiced, the scalp may become a mere mass of animated filth.

When eczema attacks the scalp in children, it frequently extends to the face, and presents an active form of inflammation of the vesicular, pustular, or nudose type, accompanied with a good deal of heat and pruritus. If it extends behind the ears, fissures may form.

In adults, eczema of the scalp is usually of the subacute form, without much exudation; and on the face it may be of the erythematous type, without other lesion.

When the palmar and plantar surfaces are attacked by eczema, we may have a purely erythematous lesion, characterized by a red, dry, and glossy surface, on which the natural skin lines are greatly exaggerated as to size and distinctness, and many lines appear which are not noticeable in the normal condition. In addition fissures may form, accompanied with slight exudation. This type of the

disease is the most common, and is usually subacute and chronic. On the other hand, we may have an acute eczema of the hands and feet, accompanied with vesi-

FIG. 1.—Erythematous Eczema of the Hand.

cle formation. In consequence of the thickness of the horny epidermis on those parts, the vesicles do not easily rupture, but instead retain their integrity, and even become larger, and remain as vesicles until absorption of the contents occurs, when what was the summit of the vesicle separates as a small scale.

The penis and scrotum usually exhibit the erythematous variety, vesicle and scale formation being rarely met with.

The inner aspect of the thighs and legs is the favorite location of the papular form, although it may be met with on almost any part of the body, and even on the face.

On the lower extremities below the knees eczema is frequently encountered as a direct result of varicose veins, and, if these latter have given rise to ulcers, a

broad and diffuse zone of erythematous eczema will almost always surround them, with scattered patches on the neighboring parts.

Eczema about the anus is frequently marked by radiating fissures of greater or less depth.

Eczema may extend from the skin proper down into the follicular openings, especially those of the face and other hairy parts, except the scalp. In these cases the surface eczema may play a very secondary part. On the one hand, we may have the hair-follicles especially involved. When this appears, the general surface of the patch will be found red, and either dry or exuding, but the inflammation having invaded the lining membrane of the follicles, they will be found swollen and loosened. Slight traction on the hair will extract it, accompanied with its root-sheaths. Frequently the exudation which forms within the follicle comes to the surface, and lifts the epidermis surrounding the hair, and forms a pustule (rarely a vesicle) pierced through the center by the hair. This deep-seated inflammation sometimes results in extension of the action beyond the proper outline of the follicle, and nodules form. This condition must be distinguished from sycosis, with nodules, etc., resulting from parasitic invasion.

The sebaceous glands may also become the seat of eczematous inflammation, either with or without marked participation of the surface. Under the stimulus of the eczema the glands exhibit increased functional activity, and the eczematous exudation when present becomes mixed with the increased sebaceous secretion, and, instead of a purely lymphy or purulent exudate, we have some thin sebum mingled with it, which usually dries into greasy scales or crusts.

When an eczema persists for any great length of time, and becomes *chronic*, we find additional features that are important both as regards description and treatment. The chief of these is infiltration. The skin is still red, but usually dry, and appears to possess double or treble its natural thickness, and the patch is very appreciably raised above the surrounding surface.

Diagnosis.—The extreme prevalence of eczema makes its correct and certain diagnosis of the first importance; and, if the rules laid down in the general chapter on diagnosis be closely followed, there need not in the great majority of cases be any very great difficulty. The history of the attack, the frequently mul-

tiple lesions, and their progress as observed or as related by the patient, should not leave the physician long in doubt.

It is important, however, to distinguish a dry, scaly eczema of the scalp in children from a condition sometimes presenting very similar appearances, but due to an entirely different cause—namely, the vegetable parasite *trichophyton*, which is the etiological factor of ringworm. In cases of doubt the microscope will decide by revealing the presence of the fungus. In like manner eczema of the hair-follicles of the face must be carefully distinguished from *ringworm* of the same parts, to which the name of *barber's itch* is commonly given.

Eczema sometimes resembles psoriasis, and psoriasis sometimes resembles eczema; or, again, we may have an eruption which no one would be justified in pronouncing either one or the other from the appearance only. Usually the history will enable us to decide. On the hands and feet we may have appearances which may present difficulties in diagnosis between eczema, psoriasis, and syphilis.

Lastly, we have known a lichen planus to be mistaken for a papular eczema even by gentlemen well versed in cutaneous diagnosis.

Etiology.—It may be regarded as almost axiomatic that the better we understand a disease the better we will be able to treat it. This is especially true as regards the disease under consideration. Occasionally cases of acute eczema will be met with that recover under the simplest application, and even under the influence of a plain, non-medicated protective dressing. Unfortunately, these cases are rare, and in the chronic forms it is often necessary to avail ourselves of every possible aid to recovery. A thorough appreciation, therefore, of all the causes of the eruption, both actuating and contributing, can not fail to greatly assist the therapeutist in the proper selection of the remedial agencies applicable to a given case.

It is true that little is absolutely known as to the etiology of eczema; but sufficient facts have been observed in connection with the development of the disease to warrant certain inductions that in practice yield very satisfactory results.

The modern German writers, following the example and doctrines of Hebra, give this branch of the subject but scant attention, saying at most that certain

assigned causes of the disease have no real existence other than such as may be classified as external irritations of a mechanical, chemical, or thermic nature.

The French writers, on the other hand, appear to give an undue prominence to the constitutional causes, and undervalue the influence of external agencies. The truth appears to the writer to lie between the two. Eczema is a disease which arises as a consequence of certain derangements or peculiarities of internal origin, and often, and perhaps generally, brought to the surface and made manifest through some source of external irritation. In other words, two classes of causes, predisposing and exciting, are necessary for the production of the eruption in the great majority of cases. No form of external irritation known to the author is capable of exciting a true eczema in a perfectly healthy individual. *Per contra*, the constitutional predisposition in a given case must be very strong indeed to be alone capable of causing an outbreak of the eruption.

In the author's opinion eczema depends on a constitutional derangement or diathesis, hereditary or acquired, and of indefinite duration. It is due to the retention and accumulation in the blood of an undue amount of certain excrementitious substances which under normal conditions would be removed by the kidneys as fast as formed. This may be due either to deficient functional activity of the kidneys, or, on the other hand, to excessive formation of the substances in question, the kidneys acting normally and doing their share of the work of purification. The peccant matters I believe to be in the main uric and oxalic acids, with probably other less-known products of imperfect oxidation. Urea represents the highest degree of oxidation of the products of assimilation and disassimilation, while uric acid represents a lower degree of the same process. Urea is extremely soluble, and is excreted by the healthy kidney with great ease; but uric acid is extremely insoluble, is excreted with difficulty and in small quantities only, and any attempt to overtask the kidneys in this respect leads, I think, not infrequently to that form of renal irritation which ultimately results in the so-called "gouty kidney." Oxalic acid standing alone is very soluble, but its affinity for lime is so great that it immediately combines with it to form the very insoluble oxalate. If this latter enters into further combination with a protein body, as is very probable, its excretion by the kidneys is rendered still more difficult.

If, as is not improbable, the liver is responsible for a large share of the

oxidizing processes that are carried on in the body, we must look to this organ in studying the etiology of the disease; and any one who will clinically investigate cases of chronic eczema from this standpoint will be surprised at the number of patients in whom the hepatic functions do not seem to be performed in the best manner.

The causes of hepatic derangement capable of influencing the functional activity of the organ are manifold, but we have not space to indicate them here, other than to refer to malaria as a very prominent one.

The local exciting causes of eczema are numerous. A stimulating or slightly irritating poultice or lotion may provoke an outbreak of the eruption at the site of the application. Undue exposure to the influence of heat, either solar or artificial, may do the same. Irritant dust, or other particles accompanying certain mechanical operations or occupations, may induce a like result. A pruritic eruption leading to scratching may also provoke a secondary eczema. In the majority of cases, however, it will be impossible to ascertain the local cause that precipitated the outbreak. There is no question, however, that in eczematous patients exhibiting a marked gouty diathesis the most trivial causes, whether internal or external, may be followed by the appearance of the eruption.

TREATMENT.—In a disease which presents so many different phases as regards lesion and appearance; that occurs in all shades of general constitutional vigor or debility; that may be met with in connection with almost every other organic or functional affection—it is hardly to be expected that only one form of routine treatment will meet with frequent success. Such an expectation would be at variance with the known laws of pathology and with universal experience in most other forms of disease.

In eczema treatment will be successful just in proportion as every feature in each individual case is fully appreciated and its indications provided for.

The physician's duty in the management of a case of eczema is twofold. He must remove the existing lesions as speedily as possible, and he must endeavor to so alter the general constitution or habit of the patient as to diminish and perhaps abolish the tendencies to relapse. As a rule, the former indication is the one most easily and readily fulfilled, while the latter may require months or years of constant attention. The one may be likened to occasional skirmishes that take

place between two opposing armies, while the other more closely resembles the well-regulated campaign or the well-studied siege of a fortress. It not infrequently happens, moreover, that when the disease exhibits a chronic or persistent form, both modes of attack must be brought into play before the affection will show the slightest indications of yielding.

The best hopes for success lie in a comprehension on the part of the physician of every detail connected with the causation and continuance of the eruption in a given case, combined with a knowledge of the therapeutic agents and agencies that experience has found to be most effective against them. It is these points that the author desires to set forth to the best of his knowledge and ability in the present treatise.

The etiological questions in connection with the disease having already been discussed, it remains to indicate the therapeutic agencies that may be brought into play against the various manifestations of the disease. This can best be accomplished by grouping and analyzing them. This we shall do under the following heads: Hygienic, etiological, diathetic, internal, and external.

Hygienic.—In exceptional cases of eczema the patients present no obvious deviation from robust health and correct habits. They are hearty and strong, with good appetite and digestion; their bowels are regular, and their sleep is natural and refreshing. They have an abundance of wholesome food, with plenty of fresh air and suitable exercise. In short, from the hygienic standpoint, they appear to lack nothing. Under these circumstances the physician naturally has nothing to change, and he must combat the affection by other means.

In most cases, however, this state of affairs does not exist. Among children, both of the rich and the poor, insufficient or improper food may be the chief unhygienic condition. The mother's milk—the natural food of the infant—may be scanty and inferior in quality, whatever the social position or wealth of the parents. When this is the case, the nursling of the rich supplements the maternal fount with the various milk substitutes and patent foods with which the market is flooded; while the infant of the tenement partakes not only of the breast, but also of its parent's table, sharing with the older members the customary beverage (tea, coffee, or beer), and testing its toothless gums on coarse and indigestible food not suited to its age. The laborer's child of two or three years partakes of

the ordinary and common food of the family, while the child of the rich is not infrequently stuffed with sweets and confections of all kinds. The remedy for these conditions needs no suggestion from the writer's pen.

The children of the city poor live and sleep in dark and unventilated tenement-house apartments, to which fresh air and sunshine rarely gain entrance.

The child of the rich, however, on account of some supposed delicacy, perhaps, is often confined to the house for days or weeks at a time during the colder seasons, for fear that exposure to the cold or wet may bring on some serious ailment. In the inclement season the child of the poor is often insufficiently clad, while the child of the rich is usually clad too much.

Among adults of the laboring classes ill-ventilated sleeping-apartments appear to be the chief malgenic factor; while, among the wealthy, too free indulgence at the table, and especially as regards nitrogenous food, with too little bodily exercise, is not infrequently the hygienic condition that needs most attention.

If these facts are borne in mind, it is not a difficult matter to suggest the requisite changes that should be made in the patient's way of living. It is much more difficult, however, to have your recommendations carried out.

It need not be urged that clothing should be suitably adapted to the season. Not infrequently, however, it will be found that the fault lies in excess rather than deficiency in this respect; and children will be brought to you bundled up with flannels and wraps to such an extent that the body is being consequently kept in a sweat-bath—a condition by no means to be desired. Sometimes flannels are a cause of irritation; and, when such is the case, they should be separated from the skin by a thin under-garment of muslin or linen.

Fresh air and well-ventilated apartments should not be forgotten, and regular and sufficient exercise should be insisted on. As a rule, children need no urging in this respect. They will romp and play indoors and out to a degree (if permitted) that will fully satisfy all of Nature's requirements. With adults, however, it is different, and many if not most cases of chronic eczema will be found in those who either can not or will not take sufficient exercise. Amendment in this respect is absolutely necessary.

Bathing sufficient to meet the requirements of cleanliness should be insisted

on, but too frequent or too profuse use of water is not advantageous. Eczematous lesions, especially those belonging to the second stage of acute cases, are very intolerant of water. An eczema, in which the surface is raw and discharging, is always made temporarily worse by the application of water, and the reason for this is obvious. When the *stratum corneum* is absent, the delicate and succulent cells of the Malpighian layer are exposed and readily absorb water by endosmosis. They swell and perhaps even burst, and the result is increased redness, swelling, and irritation. Water, then, should never be applied to a moist and exuding eczematous surface except when absolutely necessary. The irritant effect of water, however, may in a measure be controlled by the addition of a little glycerine or a small quantity of some neutral salt, as the chloride of sodium, in the proportion of an ounce or so to the basin of water, in order to increase the specific gravity of the water until it about equals that of the serum. Water, however, is not to be absolutely excluded from the treatment of eczema. It not infrequently happens that very hot water—hot as it is possible for the patient to bear it—will cause immediate cessation of itching; while in chronic cases, with considerable infiltration, systematic use two or three times a day of very hot water will often be followed with the happiest results. A full bath of tepid water, with a pound of sal soda added to it, and taken at night, will generally exert a soothing influence; while in sluggish and chronic cases ten or twelve pounds of common salt added to a full bath will exert a stimulant action and tend to promote the cure.

Etiological.—We may accept as generally true the old dictum that when the cause is removed the effect ceases, due to the *vis medicatrix naturæ*. To this, however, there are many exceptions, and we will not infrequently encounter them in eczema. A striking instance of this came under the writer's notice some time since. A nursling had been vaccinated some seven or eight months previous. The vaccination had pursued its usual course, but, as it healed, an eczema appeared at its site, completely surrounding the point of inoculation. At the time of observation it presented a circular patch of moist eczema about two inches in diameter. This had existed almost without change for nearly seven months. In this case it was evident that the vaccination was the local etiological factor, the eczema corresponding to the inflamed areola that originally surrounded

the vaccine vesicle. In many cases of eczema of the hands in washer-women and scullions excited by too frequent insertion of the hands in strongly alkaline water, the affection will often persist in the most annoying way, even after discontinuance of the practices that excited it. Scabies is sometimes the exciting cause of an eczematous eruption which may persist for a considerable time after every acarus has been destroyed. Many other local irritations may excite an outbreak of eczema, and just in proportion as their influence has been prolonged will the eczema prove obstinate and unyielding.

In all cases, however, search should be made for all possible causes of local irritation, and the first care should be to remove them, if practicable, for, despite the exceptions noted, the general rule holds good.

Diathetic.—The diathesis underlying eczema is, as we have already noticed, a general condition characterized by deficient oxidation and sluggish action of the organs concerned in this process. It matters little at which end of the chain we commence, as the indications are clear, and fortunately we are in possession of means by which they may in great measure be fulfilled.

The blood is surcharged with excrementitious principles that should be carried out more rapidly than the emunctories are at the moment doing, and the rational indication, therefore, is to stimulate these organs to a little extra duty. If the kidneys are in a normal condition, they will readily respond to diuretics. Among these, acetate of potash, squills, caffein, and drugs of similar character have appeared to the author to yield excellent results. The alkaline diuretics, however, are the most important, and unquestionably the best of these is the benzoate of lithia. This may be given in doses of from three to five grains in half a glass of water just before meals. A long continuance or excessive doses of alkalies, however, tend to deglobulize the blood, and consequently their administration should be interrupted from time to time and hematogenic remedies substituted. A very convenient and suitable plan is to give some form of iron in connection with the alkali. Iron is of unquestioned benefit in many cases of eczema, and the possibility of its requirement should not be overlooked.

In patients advanced in years and presenting the gouty type of the disease, it is important to ascertain the condition of the kidneys; for, if there be any tendency toward disease of these organs, the use of diuretics is strictly contra-

indicated. Depuration must then be sought through the medium of the skin and bowels; and laxative mineral waters appear to be the best agents to employ under these circumstances.

The skin may be stimulated to the performance of depurative functions to a slight extent by means of the diaphoretic action of heat, as in the regular Turkish bath, or by means of some home-made substitute. It is only in long-standing and very subacute cases, however, that profuse sweating should be encouraged, for in acute cases it will aggravate and increase the trouble.

In a very large proportion of long-standing cases of chronic eczema, hepatic torpor will be found present. This may be the result of old malarial trouble, and sometimes, doubtless, is due to hereditary predisposition. In either case this tendency must be combated and remedied if possible.

Among the drugs useful in this connection are mercury and other cholagogues, and my own custom has been to administer a smart purgative dose of calomel and jalap, or blue pill followed by a cathartic water. After the dose has taken effect, mild preparations of mercury in small doses, or some vegetable equivalent, may be continued for some days or weeks. Among the vegetable cholagogues eupatorium, in the writer's opinion, holds the first place, and may be prescribed in doses of thirty minims of the fluid extract night and morning. As a rule, it constipates, and laxatives should be given with it. That polypharmical monstrosity, Warburg's tincture, is likewise very serviceable, especially if malarial disease has antedated the eczema.

The *diet* of eczematous patients is of the first importance. As a rule, you will find that adult sufferers from eczema are decidedly carnivorous in their tastes, eating a good deal of meat with a very scant quota of vegetables and cereals. Many of them, especially men, are particularly fond of the pleasures of the table, and indulge much more freely than there is any necessity for. As these matters are under the control of the patient himself, no pains should be spared to impress on him the necessity for a change in his habits. It is not well to cut off the supply of meat absolutely, but it should be very decidedly restricted, and a larger proportion of bread, vegetables, and cereals substituted.

Patients often fancy that diet of this sort will reduce their strength and in-

capacitate them for the amount of labor that their daily vocations necessitate. These fears are groundless, and on trial will soon be dissipated.

Specific Internal Treatment.—There are three drugs which appear to directly influence the course of eczema when administered internally. These are arsenic, calx sulphurata, and viola tricolor.

The preparation of *arsenic* most in vogue is unquestionably the liquor potassii arsenitis, or so-called Fowler's solution. As now prepared it contains a number of other ingredients besides arsenic, which are certainly of no advantage to it. The *liquor sodii arsenitis*, which is a simple solution of the salt in water, appears to me to be the better preparation. My own preference, however, is in favor of arsenic in substance rather than as a solution of one of its salts. When given in this manner it should be administered in a state of minute subdivision, which can best be accomplished by trituration with some hard crystalline substance like sugar of milk and then made into pills or tablets.

The useful dose of arsenic in eczema varies within very large boundaries, dependent, on the one hand, on the age of the patient, and, on the other, on the character and condition of the eruption. It may in general be stated as being between one one-hundredth and one twentieth of a grain, while in exceptionable cases as much as one tenth of a grain may be given with advantage as regards the eruption, and without injury or inconvenience to the patient. Naturally, the younger the patient the smaller should be the absolute dose; but it has been observed that children will bear relatively larger doses of arsenic in proportion to age than they do of many other drugs.

The character of the eruption, or rather the acuity of the process, influences the choice or rejection of this drug and regulates the size of the dose more, perhaps, than anything else. Arsenic is a stimulant to the skin and exerts a specific action on it, and is itself capable of producing various eruptions. Manifestly it needs to be handled with discretion. As a general rule, it may be stated that arsenic is absolutely contra-indicated or harmful in acute eczema. In subacute and chronic conditions it may sometimes be employed to advantage. In the first stage of eczema it is useless, as it appears incapable of either aborting or shortening the duration of the attack when given at this time. In an acute eczema in the second stage, with exudation and crusting, it will almost invari-

ably aggravate the eruption, increasing its extent and adding to the severity of the inflammatory symptoms.

In the second stage of a *subacute* eczema, however, where the action, though persistent, is sluggish, arsenic in moderate doses is certainly of service. It may be given in commencing doses of one fiftieth of a grain, and gradually increased. If, from any cause whatever, acute symptoms develop, the administration of the arsenic must be suspended. In the third stage of eczema, without exudation, but with dry, glossy skin covered with fine scales, arsenic exerts its greatest influence for good. Here the dose may be larger, and the longer the eruption has lasted the larger the dose.

During the administration of arsenic, the urine should from time to time be examined for albumen; and, if this is detected, the drug should be discontinued, as the integrity of the kidneys is of far greater importance than the speedy cure of the eruption.

In cases where the patches of eczema are accompanied with marked infiltration, arsenic has not, in my hands, proved very serviceable.

Calx sulphurata exerts a decided influence on eczema, and can be used to advantage in several different conditions. In cases of moist and inflamed eruption in children, with great soreness and irritation, it may be given in small doses of from one fiftieth to one twenty-fifth of a grain; and, the more markedly the exudation is purulent, the more decided the effect. It may also be used with very manifest advantage when the patches are greatly infiltrated and the inflammation of a subacute character. Under these circumstances the dose should be relatively large (one quarter to one half grain for adults).

Viola tricolor was in high repute in the last century in the treatment of eczematous affections, but has received but scant attention during the past fifty years except from French dermatologists. My own experience with it has been large, and covers a number of years, and the drug has certainly seemed to me to meet the encomiums of its early advocates. The preparations most useful are the infusion and the fluid extract. They should be made from a good quality of the imported herb, and the fluid extract should be made with very dilute alcohol, as water extracts the virtues of the plant better than alcohol.

Viola tricolor has a very decided action on the kidneys, increasing the

amount of urine and the total quantity of solids excreted with it. It is possible, therefore, that a part of its effects are due to its diuretic action. Other diuretics, however, do not seem to possess all the powers exhibited by this drug, and can not completely fill its place. Its usefulness in eczema has a very wide range, but it is specially of service in eczema capitis of infants, in most cases of vesico-pustular eczema of the scalp and face of moderate intensity but with persistent tendencies. In using this drug it is important that the dose be well adapted to the case in hand. Too small a dose will obviously be without result, while too large a one will make the eruption, for the time at least, very much worse, increasing the extent and severity of the lesions. The more acute the eruption, the smaller should be the dose; while the more subacute and indolent it is, the larger it should be. In infants a single drop of the fluid extract two or three times a day is often sufficient, while a teaspoonful may be given to adults with an indolent eruption.

The three drugs here mentioned are the ones on which I chiefly rely in the treatment of the lesions of the disease in contradistinction to the constitutional conditions which precede or accompany them. Both classes or methods of treatment may often be pursued simultaneously; but which should be predominant or entirely omitted is simply a question of judgment.

When eczema occurs in connection with syphilis or in markedly scrofulous subjects, the treatment of these diseases should go on side by side with the treatment of the eczema.

Local Treatment.—The local treatment of eczema involves the employment of various lotions, glyceroles, ointments, oils, plasters, powders, and soaps. A very formidable list of these might be given, but I shall confine myself, in the main, to those with which I have had a favorable practical experience.

Lotions.—Of these the well-known *black-wash* may first be mentioned. This, however, should be made about double the strength of the officinal preparation. It should be well shaken before use, and is applicable at the earliest stage of the acute form of the disease, when the primary congestion is present, and the vesicles are about to form. Even after rupture and during the second stage black-wash will often greatly modify the intensity of the inflammation and relieve the subjective symptoms. Of still greater value during the first and second

stages is the solution of the peroxide of hydrogen. The commercial article usually contains twelve volumes of the peroxide, and is too strong to apply in many cases of eczema, and may require dilution with one or two parts of water or even more. The effect of this solution in many cases appears almost magical, reducing the purulent exudation, and hastening the formation of a new epidermis.

Hot water, as already noticed, is capable of reducing the congestion and relieving the irritation, and in chronic cases exerts a stimulant effect that results in diminution and removal of the infiltration.

Dilute alkaline preparations, especially a solution of carbonate of soda, are useful for cleansing purposes, and, to a certain extent, for the relief of pruritus.

Strong alkaline preparations, such as *liquor potassæ*, green soap, and its tincture, have a distinct function to perform in the reduction of thickened epidermis in eczema of the hands and feet and in the removal of infiltration. If a patch of greatly infiltrated eczema be painted with liquor potassæ, in a few moments little droplets of serum will be seen upon the surface. If these be wiped off, fresh serum exudes, and this continues for some minutes. When the tendency to exudation ceases, the parts should be wiped dry and a sedative ointment applied. The application is repeated on the second or third day, according to the degree of irritation produced, and this is continued until several applications have been made. The result will be a notable reduction of the infiltration.

Ointments.—The ointments most in vogue are the unguentum zinci oxidi, unguentum hydrargyri ammoniati, unguentum hydrargyri nitratis, unguentum diachylon, unguentum picis liquidi, and ointments containing carbolic acid, salicylic acid, and resorcin. Of these the zinc ointment is probably inert so far as any direct medicinal effect is concerned. It is simply a protective, and as such serves an admirable purpose, especially in cases of extensive disease, where it would be neither safe nor prudent to employ the mercurial preparations. When a decidedly sedative effect is desired, I am in the habit of adding a little belladonna, or a small quantity of the fluid extract made from fresh stramonium-leaves. Unguentum diachylon resembles zinc ointment in its general effects, but as it possesses few, if any, advantages over it, and is rarely well made, it has not come into very general use.

Unguentum hydrargyri ammoniati, either alone or with the addition of a little stramonium, is much more effective as a curative agent than zinc ointment, but must be used with a certain amount of discretion, and should not be applied to a very extensive surface, lest salivation should occur. In some cases it irritates and should be abandoned, and in a few instances I have known it to excite an intense dermatitis.

The ointment of the nitrate of mercury is more stimulating than the preceding, and should be used in not more than half the officinal strength.

Ointments containing from four to ten grains of carbolic acid to the ounce are sometimes of service for the relief of the distressing pruritus.

The second stage of eczema with exudation and crusting is the period when the above-mentioned ointments are of the most service. After removal of all crusts, and careful drying of the surface, the ointments may be smeared on the parts, or applied on muslin and bound on. The salve-muslins introduced by Dr. Unna, which consist of a loosely woven fabric thickly impregnated with the ointment, are exceedingly convenient when a fixed dressing is desired. The plaster-muslins of Unna have a firmer consistence, and are more generally useful than the salve-muslins. Similar dressings have been placed on the market by American manufacturers, and fully meet all requirements.

The frequency of the application or of the dressing will depend in great measure on the amount of discharge. Sometimes the applications will require renewal night and morning, and sometimes but once in twenty-four hours. As a rule the parts should be disturbed as little as possible, and the dressings removed only when necessary.

Unguentum picis liquidi and ointments containing oleum cadinum, oleum rusci, and similar empyreumatic substances, play quite a different part in the treatment of eczema. They should never be used in the first or second stage of the disease, or when acute conditions are present. In the third stage, however, where the skin presents a dry and scaly surface, covered with newly but imperfectly formed epithelium, and especially if the affection is indolent, these preparations are of the greatest service.

Collodions.—Contractile collodion will sometimes, I believe, avert a threatened eczema, and prevent extension from one already existing, if applied

around the margin of the lesion. Flexible collodion is a protective only, and may be useful when the exudation is slight. Cantharidial collodion is sometimes employed as an application to an old and obstinate local patch which it is desired to stir up to some degree of activity. Occasionally it hastens a cure—more frequently it does more harm than good. Collodion with five per cent of iodine will often prove of service in chronic thickened patches, while collodion containing three or four per cent of salicylic acid will dissolve and remove thickened epidermis from the hands and feet more quickly, perhaps, than any other substance. Salicylic acid, however, should never be used continuously, or during the second stage, when the epithelium is absent, as it tends to prevent the cornification of the new epithelium.

Traumaticin is the name in common use to designate a ten-per-cent solution of gutta-percha in chloroform, and it possesses many advantages over collodion, and may be made use in connection with oxide of zinc, ammoniated mercury, etc.

Gelatine, mixed with glycerine, and dissolved by heat, has been used as a basis for the incorporation of various drugs applicable to the treatment of eczema. When applied it should be liquefied by heat and painted rather thickly on the parts. It can only be used where patients are confined to the bed, and is not as useful, in my experience, as other applications.

Powders.—It is sometimes found that in the second stage of the disease ointments and lotions of every kind increase the irritation and add to the discomfort of the patient. Fortunately, these instances are rare; but, when they are met with simple or medicated powders, will sometimes prove of service. Starch, lycopodium, ordinary toilet-powder, or talc, may be used alone, or the oxide of zinc or subnitrate of bismuth may be used with either of them.

Soaps.—Soft potash soap, equivalent to the *sapo viridis* of the pharmacopœia, contains an excess of alkali, and is used for the reduction of infiltration. It should be thoroughly rubbed in with the aid of a piece of flannel moistened in hot water until a lather has formed. This is left on, and the effect is similar to that of liquor potassæ, already noticed. Hard soda soap, prepared for laundry use, also contains considerable free alkali, and may be used for the same purpose. Tar soap is of service in the third and scaly stage of the disease.

Certain mechanical means are sometimes employed in the treatment of eczema. A few years since wrapping the part in sheets of vulcanized rubber was much lauded, especially in eczema of the hands, with a view to keeping the parts moist and macerating the thickened epidermis in the secretions of the part. This method is sometimes useful. The application of rubber, however, in the form of an elastic bandage, often proves of the greatest service in thickened eczemas of the lower extremities; then the object sought is steady pressure with a view to produce absorption of the infiltration. The silk elastic stocking may be used for the same purpose.

Sometimes localized patches of eczema of long standing fail to yield any of the ordinary means for their relief, and necessitate more vigorous interference. In this connection scarification is extremely useful, and patches of thickened eczema will sometimes disappear almost as if by magic after the use of the knife.

Antipruritics.—One of the most distressing features of many cases of eczema is the intolerable itching that frequently accompanies the disease. It is the symptom of which the patient complains the most. An application that will in all cases remove this annoyance has been long sought, but unfortunately has not yet been found. In the minority of cases only is it possible to subdue the pruritus, but in very many a certain measure of relief may be afforded: twenty or thirty grains of chloral and camphor rubbed together, and incorporated with simple ointment, may be used in subacute and non-exuding cases; three to five grains of carbolic acid, twenty or thirty of balsam of Peru, a drachm of fluid extract of stramonium, a quarter to half a grain of corrosive sublimate, or a few drops of an alcoholic solution of menthol with each ounce of ointment, may be tried in turn, but without much expectation of affording any very great relief. At least such has been the writer's experience. The pruritus ceases when the eczema gets well, and, as a rule, not until then.

TREATMENT OF THE SPECIAL FORMS AND VARIETIES OF ECZEMA.

Bearing in mind the general principles that underlie the treatment of all cases of eczema, we will consider the special varieties as influenced by age, degree of inflammatory action, locality, etc., commencing with *eczema capitis* of young children.

In eczema of the scalp in children we frequently, and perhaps generally, find the case acute as regards its character, though it may be chronic as regards the duration of time that it has existed. It is almost always presented to us in the second stage characterized by exudation and crusting, and complicated with enlarged glands at the back of the neck, small abscesses of the scalp, and may also be accompanied with pediculi. The vesicular and pustular forms are the most common, and the crusts, entangled in and retained by the hair, accumulate more thickly than elsewhere. In dispensary practice the scalp often seems a mass of animated filth, fetid and disgusting to an extreme degree. The first thing to do is to cut the hair off as short as it is possible to do it with scissors. If pediculi are present, search through hair-stumps for their ova, which should be removed. If many crusts adhere to the scalp after clipping the hair, saturate the parts with olive-oil, and, after a few hours, give the scalp a good washing with soap and warm water. After thorough drying, apply zinc or diluted white precipitate ointment. The ointment should be applied thickly, and renewed daily and even twice daily, and accumulations of old ointment be removed by gentle use of the comb as often as necessary. The scalp should not, however, be washed again for several days; in fact, the less frequently it is washed the better. If abscesses are present, they must be opened, and perhaps poulticed for a day or two. Eczema of the scalp, in many cases, seems to be called into existence as a consequence of parasitic irritation; and when the eczema itself is of but limited extent, but the parasites are numerous, they may be made the first point of attack, and cutting of the hair be avoided. I know of nothing more effective than drowning them out with ordinary kerosene. If the hair be thoroughly saturated with this for two or three days in succession, soap and water, and a fine-tooth comb and patience, will do the rest. The parasites destroyed, the eczema may re-

cover spontaneously, or more quickly if aided with a few applications of ointment.

In general, eczema of the scalp, attended with a high degree of inflammatory action, with a tendency to suppuration, sulphide of calcium is probably the best internal remedy that can be made use of, administered in accordance with the rules already given. Later, viola tricolor, especially in subacute cases of long standing, will prove useful. The enlarged glands at the back of the neck require no special attention. When the eczema gets well, they will subside. Eczema of the scalp often extends to the forehead, face, and ears. If fissures form behind the ears, it is well to add a little finely powdered graphite to the ointment. As the case progresses toward recovery, and the exudation and crusting cease, and the third stage, characterized by dryness and scabs, is ushered in, the treatment requires a change.

A little tar in some of its forms should then be added to the ointment, and the proportion of tar gradually increased as improvement occurs. If progress toward recovery should halt, a little more active stimulation may be the thing needed. If, however, the eruption should revert to the second stage, as not infrequently happens, the latter treatment will have to be resumed.

Eczema of the scalp in adults presents itself more frequently in a subacute than an acute condition, and very commonly in the dry and scaly stage, the patient complaining of a certain amount of irritation and an excessive formation of dandruff. In this condition arsenic is frequently of service, but the local treatment is of the utmost importance. If the same condition should be present on the non-hairy parts, tar would be the first remedy thought of. This, however, is practically impossible on the scalp, except for those who are able to abandon social and business pursuits. As a substitute for tar I have made use of a mixture that appears to be equally efficacious, and at the same time free from the objectionable features of the other:

℞ Acidi salicylici . . . . . gr. x to xx;
Ol. lavendulæ . . . . . ʒiij;
Ol. citronellæ . . . . . ʒj;
Ol. eucalypti . . . . . ℥ij;
M. Ol. ricini . . . . . ℥ij.

In this preparation the salicylic acid is designed to restrict the formation of scale, the eucalyptus to act as a stimulant, and the castor-oil to correct the drying effect of the latter. The best way to apply it is from a small oil-can. The hairs having been separated, a few drops are applied directly to the scalp and gently rubbed in with the finger. All the affected portions are gone over in this way. To make the application in the most thorough manner the patient will, of course, need assistance. If care be taken, only so much oil as may be necessary is applied to the scalp, and the hairs, except near the surface of the scalp, do not become disagreeably impregnated with it. This application should at first be made daily; but at the expiration of a week the intervals may usually be lengthened. If at any time the condition should revert to the second stage, with exudation and crusting, the oil must be discontinued, and white precipitate or zinc ointment substituted. Constitutional treatment should go hand in hand with the local.

Eczema barbæ.—In eczema of the hairy portions of the face, the disease not infrequently descends into the hair-follicles, and specially involves the root-sheaths, and may be accompanied with considerable infiltration of the tissues between the follicles. The most frequent form is the pustular, each pustule being pierced by a hair. When the hair is extracted, it is generally accompanied with the root-sheaths, which are swollen and loosened from the follicle. It is of the first importance that this affection be not mistaken for *trichophytosis.*

If the eczema be purely superficial—that is, if the inflammation has not descended into the follicles—it may be treated very much as an eczema situated elsewhere. If, however, it is sycosiform in character, with infiltration and pustules, epilation must be performed. Every hair in the affected region must be plucked out with forceps. As a rule, they come out easily and without much pain, in consequence of the loosening of the root-sheaths. The necessity for epilation will be apparent when we consider the fact that the loosened hairs, while in the follicles are, to all intents, acting as foreign bodies, and thus tend to keep up the inflammation. After epilation, white precipitate or zinc ointment should be applied two or three times a day. Internally one-tenth to one-fifth-grain doses of *calx sulphurata* are usually of decided benefit.

In fact, this drug nowhere shows its power more strikingly than in sycosiform eczema.

Eczema of other hairy parts—axillæ, pubis, etc.—does not usually take on the sycosiform character, and epilation may be unnecessary.

Eczema of the genital region frequently presents itself as a chronic affection of the scrotum; and most of the cases I have met with have existed for years before consulting me. The parts will usually be found red, dry, and thickened, and the seat of more or less pruritus. In long-standing cases there are usually decided infiltration and thickening of the skin. Of all forms of eczema this is the one which in my experience is the most difficult to control. A well-known writer disposes of the question of treatment in the following words:

"The treatment of eczema of the genital organs and anus does not differ from that of eczema in general, except in so far as we must bear in mind the predisposing causes, and endeavor to remove them if possible."

This general advice is good as far as it goes, but perhaps the most important of the predisposing local causes is the dependent position of the parts, and their constant exposure to friction, to say nothing of the natural moisture of the parts. As these causes can not be conveniently removed, we must confine ourselves to a partial mitigation of their effects. This can be accomplished, so far as the scrotum is concerned, by a properly fitting and snugly applied suspensory bandage. The bag should be applied in such a way as to keep the parts as elevated as possible, and with as much pressure as can be conveniently borne—without, however, constricting the upper part so as to impede the venous circulation. If there is much infiltration, the first efforts should be toward its reduction. There are three principal methods by which we may seek to accomplish this end: First, by a few scarifications of the scrotum, permitting the parts to bleed freely, care being taken not to cut any of the larger veins. After scarification the patient should sit for some minutes in a warm antiseptic sitz-bath to encourage bleeding and exudation. After the parts are dried, a little tincture of benzoin or other antiseptic lotion may be sprayed over them, and the suspensory applied. In a week or two the scarifications may be repeated. The relief afforded by this is sometimes surprising. Many patients, however, have such a dread of cutting operations about

PLATE II.

the genitals, that some other procedure must generally be advised. The second means that we have is galvanization. The constant current, applied daily or on alternate days, will sometimes reduce the infiltration and relieve the itching. The testicles should be pushed well up, and the scrotum held between two good-sized sponge-covered electrodes, and a current of eight or ten cells passed for five to ten minutes, the strength and duration of the current being regulated according to the susceptibility of the patient. The third method of reducing the infiltration is the one most commonly employed, and consists in the application of liquor potassæ. This should be mopped on with a small tuft of absorbent cotton wrapped around the end of a stick. This application should be made by the surgeon himself, and not intrusted to the patient. After its immediate effects have passed off, the parts may be dressed with zinc ointment and the suspensory adjusted. From six to a dozen applications, made at intervals of four or five days, will frequently produce very marked reduction of the infiltration. Eczema of the penis sometimes accompanies eczema of the scrotum, but usually in a milder form. Eczema of the penis, however, may exist alone, and if met with in persons passed middle life, and especially if the glans and inner surface of the prepuce is involved, the presence or absence of glycosuria should be ascertained. If this condition is present, the parts should be carefully washed after urination if the water comes in contact with them, and an antiseptic lotion or powder applied. The general treatment should be that which is appropriate to the diabetic condition.

Eczema in the vulva is rarely met with until the climacteric or later. In some cases it is doubtless excited by irritating uterine or vaginal discharges, but in perhaps the majority it is due to glycosuria. In either case the preliminary treatment is clear, and the best local application, in my experience, is the peroxide of hydrogen.

Eczema of the *palmar* and *plantar* surfaces, frequently accompanied with great thickening of the epidermis and with fissures, requires special treatment.

The thickened epidermis must be removed mechanically with knife, file, or sand-paper. After all that is possible has been removed in this way, a five-per-cent solution of salicylic acid in flexible collodion should be applied. After several daily applications have been made, it will be found that still more

of the epidermis may be easily removed. If infiltration be present, liquor potassæ should be applied, taking care not to let it get into the fissures, if any be present. The fissures themselves should be dressed with graphite, and white precipitate or citric ointment applied to the entire diseased surface.

If, however, there be little infiltration or epidermic proliferation, tar or its equivalent is indicated if the surface is dry and scaling; while some of the less stimulating ointments should be applied if the surface be moist and exuding. At best, eczema of the hands, if already chronic, is an exceedingly obstinate affection, and one difficult to remove.

Eczema of the leg is very frequently dependent on pre-existing varicose veins, and when such is the case is difficult to manage, unless the diseased veins can themselves be brought under control. If the varicose condition be at all severe, the general nutrition of the skin of the leg seems to suffer greatly, and a slight wound from scratching may degenerate into an ulcer. The cutaneous tissues which are the site of the lesion, and for a considerable space around it, may be greatly thickened, and the surface present a bluish tint from impeded circulation. When this condition exists, the utmost benefit will be secured from the systematic use of the rubber bandage applied so as to bring firm but even pressure to bear upon the parts. The bandage should, in the first instance, be applied by the physician, and the mode of its application taught the patient. The bandage should, when practicable, be applied morning and night, and, if it becomes soiled by discharges of any kind, should be replaced by a fresh one, while the first one is permitted to soak in cold water till again needed. After the leg has been restored to its natural size, the bandage may be discarded, but an ordinary elastic stocking should be worn habitually. The direct remedial applications to be made will depend on the stage of the eruption and condition of the lesion.

Eczema of the leg, however, is not always of varicose origin, but sometimes presents itself as a chronic subacute circumscribed lesion, with or without much infiltration. If scaling be a notable feature—that is, with decided epidermic thickening and proliferation—a few applications of salicylic acid will prove of great service as a preliminary application, and a ten or fifteen grain solution in flexible collodion should be painted over the spot. This may be repeated

PLATE III.

a few times until the tendency to scale formation has notably diminished. If there be but little infiltration, tar, or some of its preparations, is indicated; but if infiltration is marked, potash or scarification should be employed and afterward zinc or white precipitate ointment.

Acute eczema of the leg requires quite different treatment. If the greater part of the leg or both legs are involved, rest in bed or on a lounge, with the limbs elevated, is a *sine qua non.* The parts, being inflamed, hot, red, swollen, and exuding, need rest and soothing treatment. Absolute rest must be insisted on, and when secured apply suitable lotions—black-wash, lead, and opium, or diluted solution of peroxide of hydrogen. This latter agent is sometimes magical in its effects. The best method of applying it is with an atomizer. Purulent exudation is brought under immediate control, and offensive odors are destroyed. After two or three days, as a rule, the inflammation will be lessened, the area of denuded surface diminished, and attempt at healing be apparent. When the eruption has reached this condition, the period for ointments has arrived, or, better, as I think, some of the new medicated plasters containing oxide of zinc or ammoniated mercury should be applied. These may be left undisturbed for several days, and if covered with an elastic stocking the patient may be permitted to take moderate exercise. If no indiscretions be committed, steady progress toward cure may usually be expected.

Eczema of the inner *surface of the thigh* not unfrequently appears in the papular form, and may best be treated with permanently attached dressings containing zinc or white precipitate. The salve muslins of Unna or the new American plasters are exceedingly convenient for this purpose, and usually afford great relief.

Eczema of the *anus* is an insidious affection, and is frequently of long standing before it is brought to the notice of the physician. Thickening and fissures often coexist, and should first be treated and healed by cauterization, peroxide of hydrogen, graphite ointment, or powder, etc., before any attempt is made to reduce the infiltration by strong alkaline applications. One of the most effective applications to the fissures is the fine point of a Paquelin cautery at a white heat.

Eczema of the mammæ and nipples is a very frequent accompaniment of

scabies in the female, and when met with the latter disease should be suspected and sought for, and the scabies, if present, receive the first attention.

In obese persons an eczema may arise from the irritation produced by the confinement of the cutaneous secretions by overlapping folds of skin, as under pendulous breasts and in the groin between the thigh and genitals. In these, simple dusting powders, with separation of the parts by linen, will often accomplish all that is required.

PLATE II. Symmetrical gouty eczema of the limbs, resembling psoriasis.

PLATE III. Eczema of the palm—Eczema of the palm with recurring erythema.

PLATE IV. Eczema of the sole with fissures and scales.

PSORIASIS.

Psoriasis is a constitutional disease, characterized by cutaneous lesions of the squamous type.

Course and Evolution.—This affection may appear in the early years of childhood, or at almost any later period up to and including so-called middle life. It rarely appears at either of the extremes—that is, during infancy or old age.

Its first manifestations usually take the form of small red papules, soon decked with a white scale. These may be few and scattered, or many and closely aggregated. The scaly papules increase at their periphery, becoming flattened patches from the size of a pea to that of a coin or even larger. When the progress of the disease continues, neighboring patches encroach on each other, and in time coalesce, giving rise to irregular gyrate forms. Coincident with the peripheral extension there is an increase in the infiltration or thickening of the skin, and the scales become large, imbricated, and more or less adherent. On forcible removal of the scales, a red infiltrated patch is brought to light, on the surface of which minute droplets of blood may be seen. After the disease has attained its maximum development, which may include the greater

PLATE IV.

portion of the surface, it may remain stationary for an indefinite period, or may undergo a gradual involution and disappear. This is the course followed in not a few cases of mild type. A single attack of this sort, however, is exceedingly rare. In almost every instance the eruption reappears after a shorter or longer interval. In not a few cases of mild type there will be an appearance of the lesions at the beginning of the cold and a disappearance of them at the beginning of the warm seasons.

In cases even where the eruption is caused to disappear by treatment, there is the same tendency to return, and this relapsing feature of the disease is one of its most important and most annoying characteristics. To such an extent is this true, that even under the most judicious treatment, there is no certainty of a radical cure. As a rule, if a person once has psoriasis, he may expect to have it always—that is, with certain intervals of freedom. The reverse of this is rare, as it is extremely exceptional for a patient to recover permanently or to enjoy immunity for a term of years.

The subjective symptoms are usually unimportant, amounting at most to a moderate degree of pruritus, though in many cases this is not sufficient to be complained of by the patient.

The eruption frequently exhibits a more or less symmetrical disposition, and prefers the extensor surface with a special predilection for the elbows and knees. The upper half of the body usually presents more lesions than the lower. It very rarely (some authors claim never) affects the palms or soles. When situated on the genitals it may excite an analogous condition of the mucous membrane.

The distribution of the eruption is well shown in the accompanying photographs (Fig. 2 and Plates V and VI).

DIAGNOSIS.—In well-marked and typical cases there can not be the least difficulty in diagnosis, especially to any one who has already seen an example of the disease. Unfortunately, however, cases are not always typical; and we must learn to distinguish psoriasis from syphilis, eczema, and dermatitis exfoliativa. As we have already stated and figured (Plate II), eczema may closely resemble psoriasis. In like manner the latter disease may closely counterfeit the former in its outward appearance, as shown in Plate VII; and in this

particular case the diagnosis was by no means easy, nor was it arrived at at a glance, but only by careful consideration of the case in all its bearings. A squamous syphilide may closely resemble psoriasis; but here the history will aid us greatly if we bear in mind a few fundamental facts. In psoriatic cases of long standing we will have the history of repeated outbreaks of eruption, but they will all have presented the same general type—that is to say, a *repetition* of the same kind of eruption—a squamous syphilide will probably have been preceded by other eruptive attacks; but these have been in all probability a different sort of eruption—papular, pustular, or what not. Syphilis rarely repeats itself in its manifestations. If in addition we learn from the patient the prior existence of the primary lesion, or if we find other coexisting lesions, as alopecia, mucous patches, throat trouble, etc., we should not long remain in doubt as to the nature of the eruption about which we have been consulted. The existence of squamous lesions on the palms and soles in connection with squamous patches on the general surface is very strong presumptive evidence of syphilis. In psoriasis the epidermic proliferation or desquamation is much greater than in syphilis. We have known a case of exfoliative dermatitis to be mistaken for psoriasis; but if we recollect that the characteristic feature of the former disease is the exfoliation of quite extensive laminæ, of not very greatly thickened epidermis, sometimes several square inches in extent, there is no excuse for mistaking the one disease for the other.

FIG. 2.—Psoriasis.

Psoriasis and syphilis may of course coexist, as we have seen two such

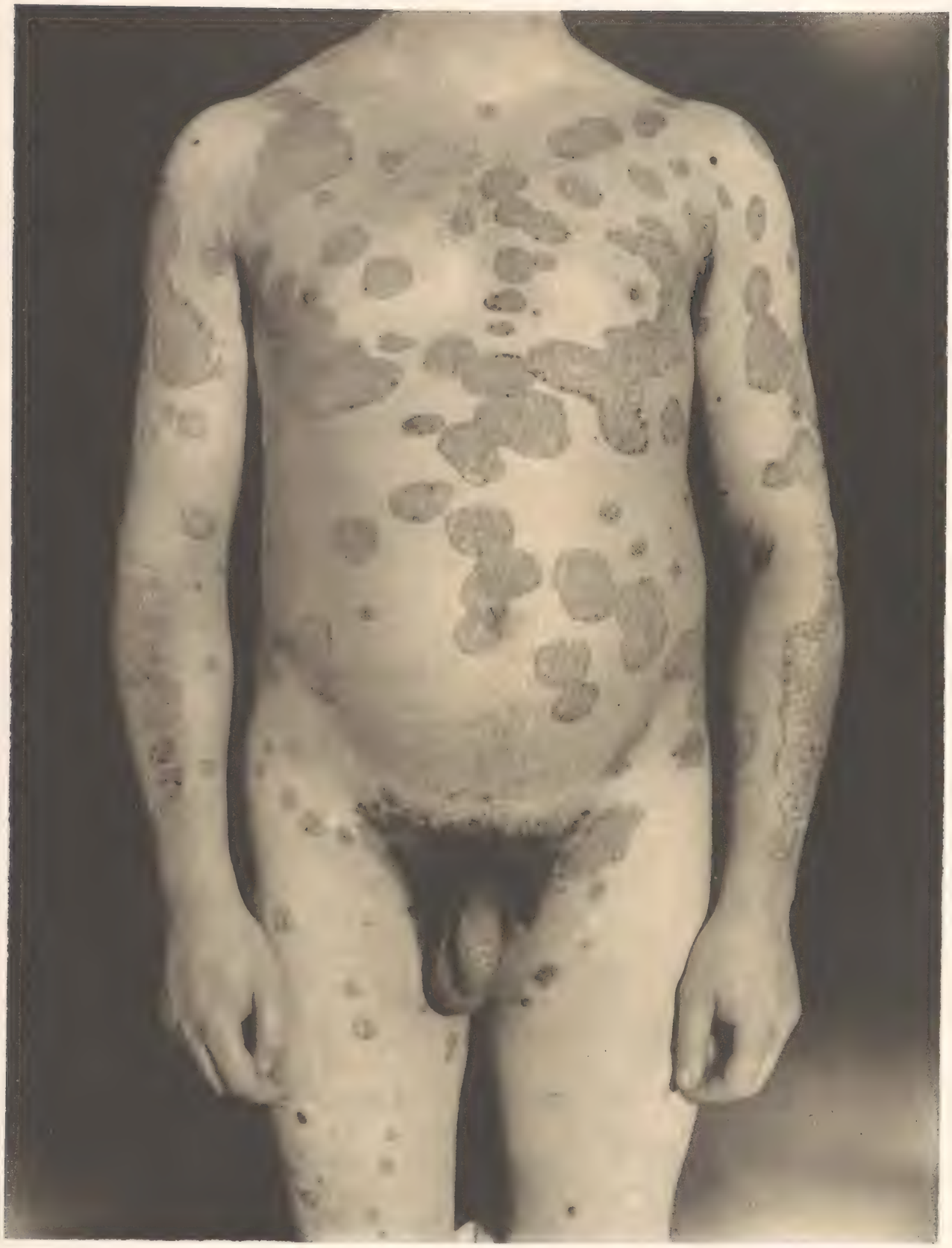

PLATE V.

cases. In both instances, however, there was little difficulty in differentiating the respective lesions.

COMPLICATIONS.—Psoriasis may coexist with eczema, both presenting typical lesions, or we may have lesions of mixed character, in which it would be hard to say which disease predominated. Certain diseases of other organs appear to bear a close relationship to psoriasis. This is notably true of arthritic affections and also of asthma. As a rule, these do not coexist with the psoriasis, but manifest themselves during the time that the skin is free from eruption, alternating as it were with the cutaneous lesion.

ETIOLOGY.—We possess no certain knowledge as to either the proximate or remote causes of the disease. It is not uncommon to find an extensive eruption in those who otherwise appear to enjoy the most robust health; while, on the other hand, it may appear only during periods of temporary debility, as in women during pregnancy and lactation. That the affection is constitutional and connected with similar conditions to those underlying eczema we have no doubt, and each year's experience more strongly confirms this opinion. Some have claimed that the eruption is purely local or due to the presence of a parasite. The evidence of this is wanting. Others pretend that it is but a relic of syphilis handed down from a remote ancestor. This view also has little to support it.

TREATMENT.—It is but a few years since the chief reliance in the treatment of psoriasis was the internal use of arsenic and the external use of tar. Slow and tedious was the cure. Now, however, we possess an agent that exhibits a remarkable energy in the control of the eruption. We allude to chrysarobin. This has been employed in various ways, but the one we have found most satisfactory is a mixture of thirty grains of the drug with one ounce of traumaticin (*liquor gutta-percha*). This should be painted on the spots daily until a considerable degree of local irritation is produced. Sedative applications should then be applied for a few days, and the skin allowed to recover from the effects of the drug. A single course of this sort will cause most of the spots to disappear—that is, as regards scale formation and infiltration—and these spots will usually appear distinctly white and anæmic in comparison with the surrounding skin, which has been darkened by congestion

produced by the chrysarobin. Unless the eruption was limited both as to size and extent of the lesions, we will find many patches in which complete recovery has not taken place. These will require additional applications. Chrysarobin possesses the inconvenience of staining the surrounding skin (temporarily) and permanently staining the clothing; and a number of substitutes—napthol, resorcin, antarobin, hydroxylamin, etc.—have been proposed. Some of these are dangerous, while others are inefficient, and none of them are equal in efficacy to chrysarobin. This drug, however, should not be applied to the face or scalp, and we must instead use milder applications, such as tar or some of the essential oils, as the oleum pini sylvestris, oleum eucalypti, etc.

When the eruption has nearly or quite disappeared, it is well to commence the use of arsenic, giving it in full doses, and increasing up to the limit of tolerance. They should be continued for several months. Before prescribing arsenic, however, the condition of the kidneys should be ascertained; and, unless they are sound, arsenic should not be employed. Iodide of potassium in large doses will sometimes greatly ameliorate psoriasis; and this fact has been used as an argument in favor of the pre-syphilitic theory. We can believe rather that the efficacy of the iodide is due to its diuretic properties, as other diuretics—copaiba, cantharis, and acetate of potash—will also sometimes cause improvement in psoriasis without the employment of local treatment.

By whatever means psoriasis may be caused to disappear, we may count on a relapse in the majority of cases. This, however, may be deferred by the use of arsenic and attention to general hygienic and dietetic measures, similar to those detailed in the treatment of eczema.

PLATE V. Psoriasis.
PLATE VI. Psoriasis.
PLATE VII. Psoriasis resembling eczema.

PLATE VI.

PLATE VII.

SYPHILIS.

Syphilis is a disease that involves not only the skin but every other organ and tissue of the body. Its cutaneous relations, however, are those which chiefly concern us at present.

The first visible lesion of syphilis usually appears, in from ten to twenty days after an infective intercourse, as a small papule or erosion, going on to ulceration, and most frequently situated on the genital organs. Extra-genital chancre, however, may be met with in a variety of locations, more frequently, perhaps, about the mouth than elsewhere (Fig. 3). This lesion is termed a *chancre*. In a short time a limited induration of the subjacent tissue occurs, so that the chancre when taken between the fingers appears to have a hardened base. This induration may be, and frequently is, absent in genital chancres in women, and the lesion may be altogether overlooked. In the course of two or three weeks after the appearance of the chancre, certain of the lymphatic glands become involved, and take on enlargement and hardness. The glands chiefly noticeable in this respect are the inguinal, cubital, post-cervical, and post-auricular.

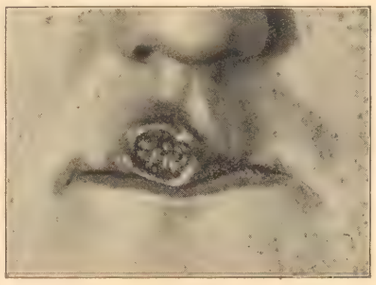

FIG. 3.—Initial Lesion of the Upper Lip.

About this time, or a little later, we may expect a generalized outbreak upon the skin.

The various manifestations of syphilis on the skin, or *syphilides*, as they are commonly called, present different types and degrees of severity, and involve the skin either superficially or deeply. We may, however, classify them to a certain extent, and in doing so will find that they partake of one or the other of the following characters, namely: macular, papular, tubercular, pustular, squamous, bullous, and gummatous, together with ulceration occurring with or following any of the five types last mentioned.

The appearance of the first cutaneous eruption ushers in what is termed the *secondary* period of the disease.

As a rule, the first eruption is macular, and consists of small, rosy points or spots usually called syphilitic roseola. These present little or no

elevation, and disappear under pressure, showing that they are little more than points of congestion. They usually pass away within a few weeks,

FIG. 4.—Papular Syphilide.

with or without treatment. They are chiefly met with on the trunk and extremities.

PLATE VIII.

Another and much rarer macular lesion is the pigmentary syphilide, which appears as dark-colored spots on the neck, and almost wholly confined to young females. After a time a portion of the pigmentary deposit fades away, producing a somewhat characteristic appearance somewhat resembling vitiligo.

After the macules of syphilis have disappeared, or even before they are quite gone, a generalized eruption of papules may appear. These are solid elevations, and not unfrequently present minute scales at their apices. Should the patient be broken down in health, a tendency to pustulation and ulceration may be developed, and we may have the papules becoming purulent at their summits, or we may have a frankly pustular eruption from the outset. As the disease progresses there is a tendency to deeper involvement of the integument and larger size of the lesions, so the papules are not uncommonly followed by tubercles, not perhaps as numerous as the papules, but still freely distributed over the entire surface. These not infrequently undergo ulceration and become covered with greenish-black crusts.

In addition to the foregoing we may have the appearance of reddish and not greatly elevated patches, covered with white scabs, constituting the so-called squamous syphilide. These various manifestations may occupy a year or more in their evolution, and embrace the secondary period of the disease. After the disappearance of these various eruptions, there is not infrequently a decided halt in the progress of the disease, and the patient may go on for a considerable period, for years even, without a fresh outbreak. When it does come, however, it ushers in what is known as the *tertiary stage* of the disease.

In the tertiary period of syphilis the eruptions are usually of a tubercular or ulcerative character, and, instead of being generally and somewhat evenly distributed over the surface, they are usually collected into groups: for instance, half a dozen or more tubercles may form a group or patch, and there may be *one* or several such patches. As a rule, the number of patches is limited. The individual lesions sometimes disappear by absorption, but very frequently undergo ulceration, and in either case leave indelible scars. In this stage of syphilis we meet with the lesion known as the gumma. It consists of a small tumor, which usually undergoes softening throughout its entire substance, and terminates by

ulceration. This lesion is not confined to the skin, but may invade almost any organ of the body.

Concomitants of Syphilis.—The disease we are describing does not vent its entire energy upon the skin, but early in its history it exhibits its presence on the mucous membranes by the development of rather large, flattish tubercles in the mouth and about the genital organs and around the anus. It is in females especially that the mucous patch or condyloma reaches its highest development.

Fig. 5.—Tertiary Syphilis.

Early in the disease, too, the hair may fall out, so that an almost complete alopecia of the scalp may occur before it is checked by treatment. This early alopecia, however, is not permanent, as the hair begins to grow again as soon as the patient is brought under the influence of proper constitutional treatment. During this period, also, inflammation of the iris is a not infrequent complication.

Ulcerations, more or less extensive, of the soft palate and tonsils, may supervene among the early or late symptoms of the disease.

In the tertiary period painful swellings are met with along the course of the long bones, especially the tibia and on the flat bones of the skull. These nodes, as they are called, are due to an inflammatory deposit beneath the periosteum, which is usually accompanied with considerable pain, worse at night.

PLATE IX.

The gummy deposit separates the periosteum from the bone, and, by depriving the bone-tissue of its proper nourishment, produces necrosis.

The ulcerations of syphilis are somewhat peculiar, and, once seen, can hardly be mistaken afterward. They are usually round, and with clean-cut margins, as if punched out, differing in this respect from the overhanging walls of scrofulous ulcers, or the sloping margins of the simple variety (Plate XII).

Late in the disease, and among the tertiary group of symptoms, we meet with a peculiar deformity of the phalanges, commonly known as *dactylitis syphilitica*, the appearance of which is so peculiar and characteristic that it should not be mistaken for anything else. This lesion is rare, however, and perhaps unknown to many physicians, and we therefore insert a plate showing its characteristic features (Plate XIV).

Necrosis of the nasal and palatal bones may occur late in the disease.

Syphilis is an all-pervading disease, and may involve the viscera as well as the more superficial organs. The liver, kidneys, lungs, brain, spinal cord, etc., may become the seat of gummy tumors, which, according to their location and size, may do more or less damage, even to the extinction of life.

ETIOLOGY.—The original first cause of syphilis is unknown. We know, however, that at the present time it is propagated from one to the other by contact. The blood and the secretions from early syphilitic lesions are the medium of contagion, and the contact of these with an abrasion of the skin or with an even unabraded mucous surface is sufficient to transfer the disease. Whether a bacillus is an accidental or an essential feature of the process may as yet be considered unsettled.

In the vast majority of instances syphilis is contracted during sexual intercourse; occasionally, however, the buccal cavity is made to serve the ordinary purposes of the vagina, and the disease is transferred from or to the mouth. There are, however, many innocent ways of contracting the disease; for instance, using drinking-glasses, cups, spoons, pipes, etc., which have been previously used by a syphilitic, etc.

It is altogether probable, however, that in tertiary syphilis, especially if a

considerable number of years have elapsed since the first contraction of the disease, neither the blood nor secretions are contagious.

Syphilis may also result from hereditary transmission. Should the father alone be syphilitic, the offspring usually escapes; but, if the mother be affected, the child will almost certainly suffer. In the majority of cases, when infection of the mother occurred but a short time before conception, the fœtus will die *in utero*, and be expelled before time. A second or third abortion may succeed, but ultimately the mother may give birth to a living child, which, however, may soon succumb to the disease. As the period of time from the date of infection becomes greater, the less does the poison affect the offspring until a time arrives when the offspring of parents who have both been previously syphilitic, may be born without apparent taint and grow up healthy children, reaching adult life without mishap. The symptoms of hereditary syphilis may be manifested shortly after birth by erythematous blotches, bullæ, coryza, and

FIG. 6.—Ulceration of Two Years' Standing, resulting from Hereditary Syphilis.

FIG. 7.—The Patient shown in Fig. 6 after Seven Weeks' Treatment with Iodide of Iron internally and an Ointment of Protoiodide of Mercury.

marasmus, or may be deferred until about the period of puberty. In this event, interstitial keratitis, or various ulcerations, may be the chief features presented by the disease.

PLATE X.

DIAGNOSIS.—To commence at the beginning, the initial lesion or chancre is to be distinguished from the soft venereal ulcer (chancroid) by its long (two or three weeks) incubation, its plastic character, its indurated base and its slight tendency to secretion, and the single or very limited number of lesions.

The soft chancre, on the other hand, appears a few days after intercourse, presents a necrobiotic or ulcerative character, is not accompanied with the hard, infiltrated base, and may exist to the number of a dozen or more on the same patient.

In syphilis the initial lesion is usually accompanied with a number of moderately enlarged hard inguinal glands, while the chancroid may be accompanied with one or more very much enlarged and greatly inflamed and painful glands, which not infrequently go on to suppuration. In addition, we have in syphilis the other glandular indurations already noticed.

There are very few cases in which the earlier syphilitic eruptions cause any great trouble in diagnosis. Taking the history into consideration, neither the macular nor tubercular eruptions are liable to be mistaken for anything else. The papular eruption of lichen planus, however, may sometimes closely resemble a syphilide. The squamous syphilide may in like manner be mistaken for ordinary psoriasis. In most cases, however, we will learn (if the case is psoriasis) that the patient has had previous attacks of the same form of eruption, while in syphilis the previous eruptions will have been of a different type.

In late syphilis a patch of tubercular lesions may be mistaken for lupus. The history, however, again helps us, for a lupus patch will have been many months, perhaps years, in forming, while the syphilitic lesions might have reached the same development in a few weeks.

The real difficulties that surround the diagnosis of syphilitic eruptions, however, do not so often occur in simple, uncomplicated cases as in those where a syphilide coexists with some other eruptive affection. Thus we have seen at the same time a syphilide and an eczema, a syphilide and a psoriasis, a syphilide and leprosy, a syphilide and scabies, etc., and each of these separate eruptions pursued its own course apparently unmodified by the presence of the other.

Treatment.—In former times it was a question whether the disease or its treatment caused the greater inconvenience or suffering to the patient. This opprobrium no longer exists.

The treatment of a given case of syphilis will of course depend on the stage of the disease and the condition of the patient; but if the case comes at the beginning—that is, during the period of the chancre—the early or subsequent treatment may be pretty clearly mapped out in advance.

When a patient presents a venereal sore, the question of diagnosis must be settled at the outset, and settled in the most definite manner prior to the institution of a direct anti-syphilitic treatment. If the diagnosis can not be made with absolute certainty, defer the specific treatment until the secondary eruption appears. Granting, however, that the diagnosis of syphilitic chancre has been made, let us first consider what should not be done. Some have fancied that they could produce an abortion of the syphilis by early destruction of the initial lesion; and, to this end, the chancre was excised or cauterized. Experience shows that this hope can not be realized. Neither excision nor cauterization, no matter how early they are practiced, will prevent the further development of the disease, while they do add very materially to the discomfort of the patient. What, then, shall be done? There is but one drug, so far as known, that is positively and directly curative in this disease —namely, mercury; and the sooner the patient is brought under its influence the better. My own practice is to use this agent both internally and externally, believing as I do that the drug acts by virtue of its particles being brought into direct contact with the lesions, externally by means of lotions, salves, or other applications, internally through the medium of the blood and circulation. To the chancre, then, we may make a mercurial application, and the old black-wash answers admirably, except that it should contain about four times as much calomel as the officinal preparation allows. This should be applied two or three times daily. At the same time mercury should be given internally. Before commencing treatment, however, it is my custom to have a distinct understanding with the patient on two points—namely, the use of tobacco and alcohol. If the patient is in a fair state of general health, and will consent to the absolute abandonment of these two substances, it will not be going

PLATE XI.

too far to promise him a very easy time in connection with his disease, provided, of course, that he pursues the direct medical treatment with persistence and regularity.

The choice of the mercurial preparation to be given is not a matter of indifference. During the early period of the disease—say, for the first six months or a year—metallic mercury or the protosalts are to be preferred to persalts. Later the persalts seem to be more useful. Metallic mercury, either in the form of blue-pill or in trituration, may be given, so that the patient receives a half-grain of the metal three or four times a day. The dose, however should be pushed until the patient is on the verge of salivation, but never in the slightest degree beyond this. When this point is reached, we have a guide to the patient's tolerance of the drug, and omission of treatment for a day or two is recommended. It should then be resumed in somewhat smaller doses, and, with the gums and salivary glands for a guide and warning, the drug should be administered with scrupulous regularity for weeks and months. In former times salivation was considered the sheet-anchor of safety. Now, we know that it is a danger to be avoided. Under this treatment many a patient will go on for a year or more with only the slightest inconveniences from his disease. Instead of metallic mercury, the protoiodide may be employed; and this, indeed, is the favorite with most venereal surgeons. After this period, if all has gone well, I prefer to give either the bichloride or the biniodide. Some cases, however, will not go well, and, instead of superficial and not very serious eruptions, we find a tendency to ulceration developing quite early. This opens the gate for another drug—namely, the iodide of potassium. There are physicians who appear to be afraid of mercury, and who, believing the iodide to be comparatively a benign and innocent drug, give it in even the earliest stages of the disease. Personally I regard the early administration of this drug as harmful. The iodide of potassium, in the writer's judgment, does not exert the slightest curative influence on the disease itself, or tend in the slightest degree to eradicate it from the system. It does, however, possess a wonderful power over certain manifestations of the disease. In syphilitic ulcerations, in gummatous lesions, and in periostitis, the effects of the iodide are not only positive but marvelous. *Per contra*, in early superficial lesions and in late necrotic

affections of the bones, it is not only useless but harmful. In syphilis we have two types of ulceration. In one the process is sluggish, and in the other active and rapid in its destructive effects. In both of these the iodide should be employed. In the former it should be given in small doses—say five to ten grains three times a day—and combined with small doses of either the bichloride or biniodide; while in the rapidly destructive forms of ulceration the mercury should be omitted, and the iodide given in full and increasing doses.

As soon, however, as the particular lesions for which the iodide is given are brought under subjection, the drug should be given in diminished doses and soon discontinued, and mercury in small doses substituted for it.

In the sluggish ulcerations of cutaneous syphilis there is no question as to the benefit to be derived from local mercurial applications, and a favorite with the writer is fifteen grains of the protoiodide to an ounce of simple ointment.

Instead of administering mercury by the mouth, it may be used in the form of blue ointment rubbed into the groin or axilla. Or it may be given in hypodermic injection, employing either a soluble or an insoluble preparation. There are, doubtless, occasional cases in which these methods may be preferred; but as habitual or routine methods of treatment they are mentioned only to be condemned.

There remains one drug, however, that is useful in certain syphilitic conditions, but of which very little mention is made in modern text-books. I allude to gold. In necrosis of the bones, especially the nasal and palatine, gold unquestionably hastens the separation of the sequestrum by promptly determining the line of demarkation between the healthy and the diseased tissues. A grain of the chloride of gold or two grains of the chloride of gold and sodium may be dissolved in an ounce of water, and five to ten drops be given once or twice a day. No advantage, we believe, will be derived from increasing this dose. It should be continued for a short time after the separation and removal of the bone, as it seems to decidedly promote the healing process.

PLATE XII.

PLATE XIII.

PLATE XIV.

PLATE VIII. Tumefaction of the vulva following the initial lesion.
PLATE IX. Papular syphilide.
PLATE X. Papular syphilide.
PLATE XI. Squamous and ulcerative syphilitic lesions.
PLATE XII. Syphilitic ulceration.
PLATE XIII. Syphilitic ulceration.
PLATE XIV. Syphilitic dactylitis.

LEPROSY.

Leprosy is a disease that has been known from the earliest ages, and has prevailed among all races and in all climes.

At present it is most wide-spread in countries lying both to the north and to the south of the temperate zone and among the less enlightened people of the earth. To a limited extent, however, it is met with in Europe and the United States.

The disease manifests itself in three chief forms or phases of development, known as the macular, tubercular, and the anæsthetic. The first is characterized by the development of brownish discolorations of varying size and number. These, after an existence of months or years, may lose their heightened color and become pigmentless, and the cutaneous nerves in the affected parts lose their sensibility.

The tubercular form is characterized by the development of tubercles upon various parts of the body. These exhibit a slightly heightened color, becoming later somewhat copper-colored, and affect a preference for the face, especially just above the eyebrows and upon the nose and ears, but may and usually do appear upon the extremities.

In the anæsthetic form, bullæ, usually solitary, develop upon various parts of the integument. They persist for a short time only and leave behind them discolorations, which in time may become whitened and anæsthetic. In this form of the disease there is grave implication of the principal nerve-trunks of the extremities. This is notably the case with the ulnar nerve, which in cases

moderately advanced may be readily perceived as a thickened cord just above the head of the bone whose name it bears. In this form especially pain in the extremities is a more or less prominent feature. Connected with the development of the disease, anæsthesia of the integument, chiefly of the extremities, becomes a prominent feature. The gradual destruction of the ulnar nerve leads to impairment of its functions and atrophy of the more distant parts to which it is distributed. This atrophic action is most distinctly manifested in the fingers and toes. Fissures occur in the integument, and absorption of the phalanges takes place and leads to loss of these parts. The separation usually occurs at some point between the joints rather than at the joints themselves. A continuance of the morbid action may result in loss of all the phalanges, and even of some of the metacarpal and metatarsal bones.

FIG. 8.—Tubercular Leprosy.

Leprosy is essentially a chronic disease. Before the appearance of cutaneous or nervous lesions there usually exists a prodromal period of several years' duration without definite symptoms other than impairment of the general vigor. During this period it is hardly possible to make a diagnosis of the impending trouble. After the disease, however, is fully developed, ten, fifteen, or twenty years may pass before the fatal termination.

ETIOLOGY.—If we may judge from Holy Writ, the ancient Jewish lawgivers

regarded the disease as contagious. Modern English science, as represented by Mr. Jonathan Hutchinson and others, declares that it is not. For our own part, we have no hesitation in accepting the older view. The discovery in recent times of a peculiar bacillus by Hansen gives us a clew to the medium of contagion, and corroborates the results of careful clinical observation. While we can not doubt the possibility of contagion, we must admit that within the temperate zones direct transfer of the disease from one person to another has been very rarely observed. It is by no means unusual for a Caucasian to contract the disease when dwelling among the natives where it is endemic; but it is extremely rare for him, on returning to his native country, to convey the malady to those with whom he associates. During the past twenty-five years there have been a large number of lepers who have passed months and sometimes years in the hospitals of New York, and yet, so far as the writer is aware, not a single case of leprosy has developed in this city.

DIAGNOSIS.—It is only during the period of the earliest manifestations that any doubt should arise as to the diagnosis of the disease. When at all advanced, its signs and symptoms are too marked to admit of any doubt. The macules, the bullæ, the anæsthetic patches, the tubercles, the enlarged ulnar nerves, and the mutilations, form a combination of symptoms met with in no other affection. It is true that one or more of them may be absent in a given case, but enough will be present to render the diagnosis both easy and certain.

PROGNOSIS.—The prognosis is uniformly unfavorable—that is, when the disease is left to its natural course. Spontaneous recovery, if it ever occurs, is extremely rare. A few cases of cure have been reported, but a shade of doubt hangs over them. Mitigation of the affection, and even abeyance of the symptoms for a time, are by no means uncommon.

TREATMENT.—Good food and good hygienic surroundings are of the first importance in the treatment of leprosy. Strychnine and chaulmoogra-oil are remedial agents of great value. With these four means at command, the majority of cases of leprosy can, we believe, be greatly benefited. This, at least, has been the author's limited experience. The drugs mentioned should be given in full doses, the oil being applied externally as well as internally. We

have seen a number of cases in which this treatment appears to have stayed for a considerable period the progress of the disease.

PLATE XV. Tubercular leprosy.

LUPUS.

There are three principal forms of this disease—the superficial variety, commonly spoken of as *lupus erythematosus;* the deeper, or *lupus vulgaris;* and the deeply destructive form, or *lupus exedens.*

These three varieties present certain features in common, and their *color* is peculiar. It is neither the frank red of an active congestion nor the brownish ham-color of syphilis, but rather the vinous color that derives its hue from chronic venous congestion, mingled with a certain amount of red. The lesions are few in number; often but a single lesion may be present, but quite frequently we may find two or three—rarely more. Their course is chronic, years being devoted to their development. They almost always leave scars, even in the absence of ulceration. The local symptoms are insignificant, as there is rarely either pain or itching, at most a slight burning sensation, to which the patient becomes habituated and ceases to notice. In the patient's family history, pulmonary phthisis is an almost constant feature.

Thirty years ago Bazin and Hardy gave the name of *scrofulides* to these affections, recognizing at that time their dependence on the general constitutional condition that predisposes to tuberculosis. The writer accepted this view early in his studies, and still believes it to be correct. Quite recently, the *bacillus tuberculosis* has been found to be a constant accompaniment of the lesions, thus demonstrating the soundness of the opinions advanced by the French dermatologists above mentioned.

LUPUS ERYTHEMATOSUS.

In this variety the lesion commences as a reddish macule, barely elevated above the level of the surrounding skin. As it slowly but gradually increases

PLATE XV.

in size, the elevation slightly increases, and small, closely adherent scales form upon the surface. The extension is peripheral, and after many months, or perhaps years, may attain the size of a coin. When it has reached a diameter of say from one half to three quarters of an inch, the central and older portions begin to lose their infiltrated character, sink to the level of and even beneath the level of the skin, at the same time losing their color. This continues until we find a white depressed scar, surrounded by a still infiltrated raised reddened ring. During the progress of the lesion as described, other similar ones may have appeared on neighboring or on distant parts; but, as a rule, their number is limited. When two patches have appeared in close proximity, they may join by mutual peripheral extension. In this way the greater portion of one side, or even both sides, of the face may become involved by the disease. Such extensive invasion, however, is the result of years, as cases are met with in which the lesions have been gradually extending in this manner for twenty years or more, the older portions of the lesion undergoing the retrogressive changes we have noticed.

FIG. 9.—Erythematous Lupus.

The favorite seat of erythematous lupus, and in fact of all varieties of this disease, is the face, although other parts may be attacked as well, and even to the exclusion of the face.

Epithelioma may develop upon the site of a long-existing erythematous lupus, or in the neighborhood of lupous lesions.

Some writers have described an acute affection bearing a strong resemblance to erythematous lupus, in the appearance and course of the lesions, except as to the generalization of the eruption and rapidity of its evolution

LUPUS VULGARIS.

Lupus vulgaris is characterized by the development of tubercles within or projecting to a greater or less degree above the surface of the skin. It rarely appears as an isolated tubercle, but more frequently in groups of six or a dozen tubercles, quite close to, but not touching one another, little bands of apparently healthy skin intervening, thus forming a patch. As the disease progresses, however, the tubercles may unite by mutual extension and the entire patch present a lupous character. There may be one or more of these patches. The tubercles themselves are soft, sometimes almost jelly-like, in appearance and consistence. The extension of the lesions is slow, years intervening before the patches attain any notable size.

FIG. 10.—Lupus vulgaris.

Just as in the erythematous variety, the lesions of lupus vulgaris may undergo resolution, leaving a depressed cicatrix, or else they may ulcerate superficially. The ulcerative action is exceedingly slow, and appears to involve only the upper portion of the derma —more rarely its entire thickness. The exudation from the surface of the ulcer is exceedingly scanty, and forms a crust adhering somewhat closely to the sore. The scars that result are of a reticulate character, not unlike those produced by a severe burn, and naturally cause more or less disfigurement. Lupus vulgaris, after ulceration takes place, may be succeeded by epithelioma developing at the margins of the ulcer.

PLATE XVI.

FIG. 11.—Lupus vulgaris.

LUPUS EXEDENS.

This form of lupus was recognized by all the older writers; but those of recent times seem disposed to deny it a place in nosology, or declare that the cases described under this name were not lupus at all, but were epitheliomata. This is not in accord with the writer's clinical observation and

experience, and we, therefore, describe in this place as a variety of lupus an affection characterized by the development of usually a single good-sized *soft* tubercle. This slowly increases in size, until after a lapse of years, perhaps, ulceration sets in, which extends both widely and deeply, involving the tissues beneath the skin. The margins of the ulcer are uneven, ragged, and burrowed under. The edges, however, are soft, not presenting any hardness or induration. After an indefinite period, however, at one or more points on the periphery of the ulcer hard nodules may and usually do develop, and which we can easily recognize as unmistakable epithelioma. This epitheliomatous process may extend until the greater part of the ulcer is involved. The only contention concerning the nature of this disease is whether it is a true epithelioma from the beginning, or whether it is an epithelioma ingrafted on a lupous basis. The writer holds the latter view. Whatever may be the true pathology of the disease, the practical outcome is the same, and this is usually a fatal termination, unless the lesions be early and vigorously dealt with.

Etiology.—The family history of the great majority of patients suffering from lupus reveals the important pathological fact that phthisis pulmonaris is met among the near relations to a surprising extent, and we are forced to the conclusion that the same constitutional condition that predisposes one subject to the invasion of tuberculosis of the lungs predisposes another to tuberculosis of the skin; but the exact *role* played by the tubercle bacillus is no more known to us in the one case than in the other.

Diagnosis.—The diagnosis of lupus is in general easy. When we consider the location of the disease, the color of the lesions, their slow development, the absence of subjective symptoms, the presence of cicatrices in cases of long standing, and the repeated relapses after even vigorous attempts at treatment, we ought not to be often led astray. A question may sometimes arise as to whether certain tubercles or ulcerations are lupous or syphilitic. The length of time they have existed will usually settle this, when we bear in mind that syphilitic lesions may reach a degree of development in a few weeks that might hardly be accomplished by lupus in years. The single isolated tubercle of lupus exedens is to be distinguished from sarcoma and epithelioma. In sarcoma

PLATE XVII.

the development of the lesion is much more rapid, while in epithelioma the tubercle is hard, but in lupus exedens is soft.

PROGNOSIS.—In no disease of the skin is the prognosis more dependent on the character of the treatment. In early cases it is absolutely good if sufficiently vigorous treatment be instituted, while lack of appreciation or lack of vigor on the part of the physician is responsible for most of the extensive and long-standing cases that we meet with.

TREATMENT.—In every case of lupus the lesions must be absolutely destroyed—root, branch, and bacillus—provided the lesions are not of such an extent that their total destruction will compromise the life of the patient, or result in greater deformity than the disease itself would produce if left to pursue its course unchecked.

Lupus erythematosus may sometimes be cured by the induction of an artificial eruption produced by the action of irritants, notably the biniodide of mercury. This method, however, is not to be commended. It is much better to destroy it with an active caustic, as nitric acid, caustic potassa, or arsenical paste, provided the extent of the eruption does not contra-indicate these measures. When the lesion is quite small, excision may be practiced; or, better, thorough scraping with the dermal curette, followed by nitric acid, thorough application of the solid nitrate of silver, caustic potash, or the actual cautery. Curetting alone, without being followed by the adjuvants named, is rarely successful, and is in reality trifling with the case. The same may be said of the treatment by simple scarification. Lupus vulgaris demands the same treatment as the other form. In lupus exedens nothing can be depended on except absolute removal with the knife, including a generous portion of the surrounding apparently healthy tissue.

PLATE XVI. Lupus erythematosus

PLATE XVII. Lupus vulgaris.

PLATE XVIII. Photo-micrograph of a thin section of lupus. (This plate is introduced to exhibit the location of the infiltration, and impress on the reader the necessity for the most energetic treatment.)

EPITHELIOMA.

Epithelioma, or epithelial cancer of the skin, is characterized by the appearance of a hard tubercle or nodule, slowly increasing in size until ulceration sets in, which ulceration may extend both laterally and deeply and destroy all tissues with which it comes in contact. As its name implies, it is an outgrowth from the epithelial tissues, in which a more or less extensive and exuberant proliferation of epithelial cells occurs. The typical epithelioma may be said to take its origin in the Malpighian layer, the cells of which increase in number and seek accommodation in the deeper layers of the skin. As they increase, however, some of them, from the pressure of the neighboring connective tissue, are forced to occupy a smaller space than they would if permitted to multiply freely in all directions. As a result of this compression, small rounded bodies are formed, in which the cells assume a stratified arrangement, constituting the epithelial cell-nests well known to every microscopical observer. Coincident with this extension of the disease inward there is a greater or less projection outward, forming a distinct sessile tubercle, or a more flattened growth.

Primary cancer of the skin is, in the writer's experience, a rare condition, while epithelioma, involving both cutaneous and mucous surfaces—as ordinary cancer of the lip—is suffiicently common. Cancer of the skin, however, which has developed secondarily to some pre-existing morbid growth, is the variety, we believe, that will be met with most frequently in practice.

Epithelioma is distinctly the product of irritation—not an acute and transient irritation, even if frequently repeated, but rather one that is hardly, if at all, appreciable to the senses, and which is persistent and active through a lengthened period. Thus we may find that a purely innocent and benign growth, like a simple wart, may after a lapse of years become the seat of an epithelioma, which would not otherwise have appeared. A localized seborrhœic condition, which of itself implies an irritation of the epithelial lining of the glands may, and not infrequently does, become the starting-point of cancer. Lupus, in all its varieties, offers an inviting field for the development of the disease; and in general it may be said that an ulcerating lupus, if left to itself, will almost invariably in time become supplanted by epithelioma. Sarcoma

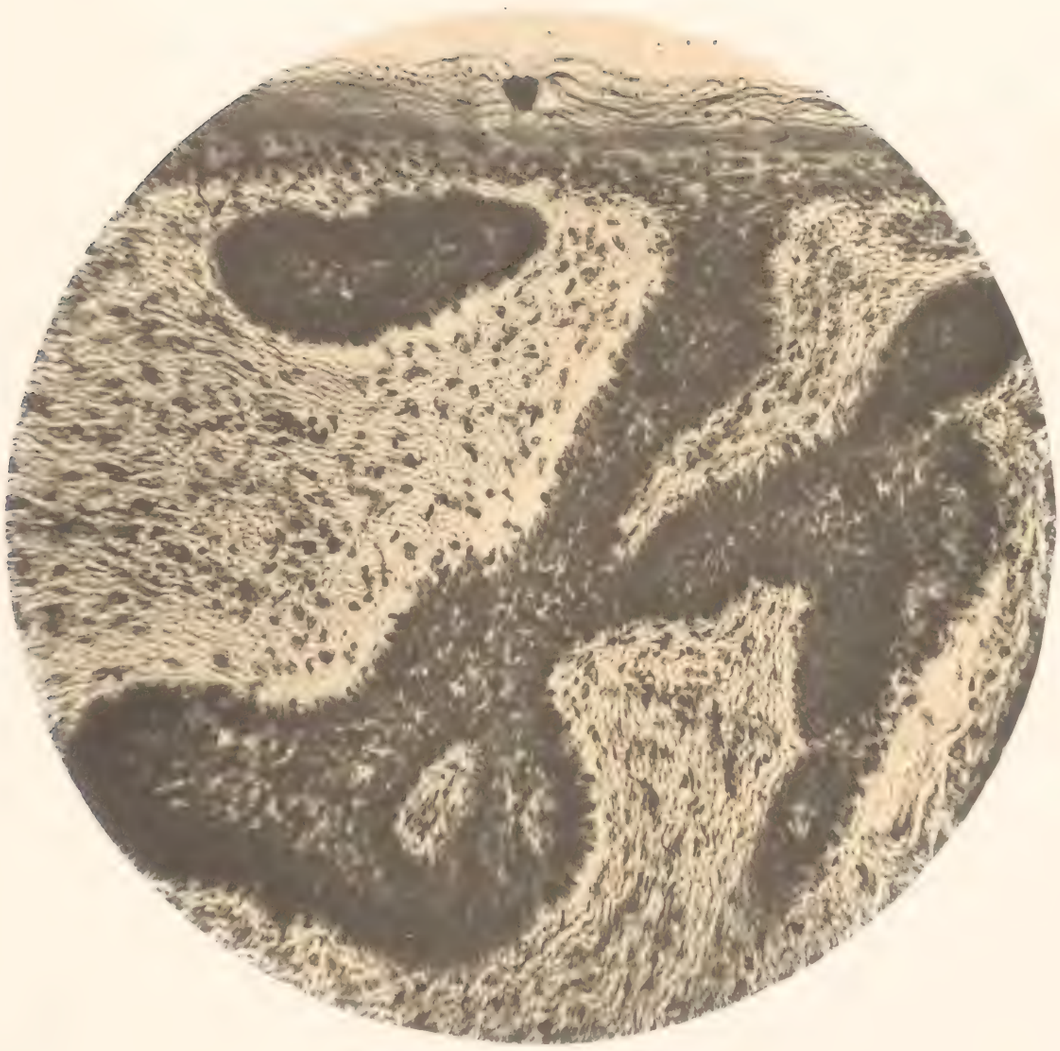

PLATE XVIII.

more rarely is followed by epithelioma, and this rarity may be explained by the fact that sarcoma usually runs its course and has destroyed the patient

FIG. 12.—Epithelioma of both Upper and Lower Lips, following Erythematous Lupus of Fifteen Years' Standing.

before the cancerous affection has had time to develop—the irritation produced by the sarcoma being more active than that which ordinarily leads to the occurrence of the other disease.

Without further considering the local influences which may lead to the development of epithelial cancer, we may say that we meet with it clinically in two distinct forms, in one of which the cutaneous involvement is more superficial than in the other. In the superficial variety, which is less frequently met with than the other, the patient's attention is first attracted to a little crust —usually on some part of the face. This he picks off, and gives little further attention to the matter. A new crust forms, and this is in turn picked off, and reveals, perhaps, a slightly excoriated surface. He consults a physician, who, failing to recognize the gravity of the condition, prescribes some salve or other, or lightly touches the part with caustic. The lesion extends, and perhaps rarely reaches the hands of a surgeon until it has advanced to the stage of frank ulceration. We now find a sharp-cut ulcer, extending through the entire thickness of the skin, but not involving the subcutaneous tissues. This ulceration advances at its borders, or sometimes in one direction only, while reparative changes may sometimes occur in the other, much after the manner of some cases of lupus. The progress of the ulceration is exceedingly tardy, and years may elapse before the ulcer has attained any considerable size, and, when it does, we will sometimes find that cicatricial tissue now occupies a portion of the territory that had been the early seat of the cancerous lesion.

The other, or tuberous form of epithelioma, will be recognized at the beginning as a hard tubercle, occupying the site of what may have been previously the situation of a soft one (wart, mole, etc.). This tubercle increases in size, and the tissues beneath it are palpably involved in the morbid process. The skin surrounding the tubercle is also involved to a certain or, rather, uncertain extent, as is evident to sight and touch. Later, ulceration appears, and the margins of the ulcer are everted and hard, and the floor of the ulcer may be several lines lower than the normal *niveau* of the skin. As the ulcer spreads laterally, so also does it become deeper, and the process continuing unchecked leads in time to a fatal termination. Such is the clinical picture of a neglected or improperly treated epithelioma.

Diagnosis.—The diagnosis of epithelioma, when actually existing, is surrounded with very few difficulties, as the induration of the tissues is hardly to be met with in any other *chronic* cutaneous lesion; but the physician should

be prepared as well to recognize conditions which will probably become epitheliomatous in time. It is this failure to diagnosticate an impending epithelioma that leads more frequently than it should to inefficient treatment and

FIG. 13.—Epithelioma of the Flat Variety, partially cicatrized.

the sacrifice of lives that might otherwise have been saved. The face is the most frequent seat of purely cutaneous epitheliomata; and, if a physician can

not make up his mind as to whether a certain hard tubercle or a chronic ulceration is cancerous or not, his plain duty is to take his patient to some one who can.

PROGNOSIS.—The prognosis of cutaneous epithelioma is GOOD, provided the lesion is seen in its early stages, and its locality permits of suitable and efficient local treatment. On the other hand, it is *distinctly bad* if the disease has gained much headway or involves an extensive surface.

TREATMENT.—The treatment of epithelioma will depend, firstly, on whether the particular lesion in question is or is not in a curable condition. This is in reality the most serious question that the surgeon has to determine, and to its solution he should bring his best judgment, based on his knowledge and experience. If he decides that it is incurable, any operation would be a barbarity, and suggestive of charlantry; but if there is a good prospect for the thorough removal of the neoplasm, no time should be lost in carrying it into effect.

The removal of epitheliomata may be effected in two ways. One of these is with the knife, and, when this is practicable, it is the best way; and there is but one rule to follow—cut widely and cut deeply. No matter how large a hole you leave, Nature will fill it up somehow, and a plastic operation will, later on, remedy to a certain extent the resulting deformity. If for any reason the knife is impracticable, the diseased tissues may be destroyed by a sufficiently active chemical agent; and experience has shown that arsenic properly used is probably the most efficient means at our command. Now, there are two ways of using arsenic: one is, to use it strong enough to destroy the cancer; and the other is to use a weaker preparation and destroy your patient by arsenical poisoning. The stronger the arsenical preparation, the greater its local action; while the weaker it is, the less is its topical action, and the greater the probability of systemic absorption. Formulas innumerable have been published, but the writer has found nothing better than the following: Take anhydrous chloride of zinc and mix it with an equal weight of water—to this add sufficient arsenic to make a moderately stiff paste. This should be applied to the diseased parts in a reasonably thick layer with a little absorbent cotton as a top-dressing. To this treatment there is one objection, namely,

PLATE XIX.

the excruciating pain that the arsenic will cause, which can only be mitigated by the free use of morphine. If the lesion be of moderate size, and the application thorough, the falling slough will, in a week or ten days, reveal a healthy ulcer, which only requires a little time for complete healing.

If the case has progressed beyond the period when a cure may reasonably be expected, the prudent surgeon will seek only to mitigate the patient's sufferings until death brings its release.

PLATE XIX. Epithelioma.

SARCOMA.

This word literally means a fleshy tumor, and embraces in its scope a variety of new growths, which present certain common features, but which differ, however, among themselves in many essential particulars, both as to form and constitution.

In general it may be stated that a sarcoma is a tumor composed, in the main, of cellular tissues, the cells themselves being either round or fusiform, and partaking of the characters of embryonic rather than fully organized adult tissue. The new growth is usually exceedingly vascular, being permeated with large vessels, some of which are doubtless extensions from pre-existing vessels of the neighboring parts, while others are doubtless first and independently formed in the new growth itself, and connect themselves later with the older vessels. In some instances there is a considerable deposit of pigmentary particles, probably derived from the blood-coloring matter throughout the growth. These histological changes give rise to three types of tumor—namely, the round-cell sarcoma, in which the round cells greatly predominate over the fusiform; the spindle-cell sarcoma, in which these cells make up the greater part of the growth; and, thirdly, the melano-, or pigment-sarcoma, which may resemble either of the foregoing with the addition of the pigmentary deposit. As a rule, neither of the foregoing types is met with in its purity, the majority of sarcomata being of a mixed type, with one or the other greatly predominating.

The earliest noticeable lesion of sarcoma may be a macule or a tubercle. The macule may develop into a tubercle, or, on the other hand, may spread laterally in the skin, forming a patch or blotch one, two, or more inches in diameter. These patches are heightened in color, the hue being a bluish-brown, are hardly at all elevated, and differ in consistence but little from the normal surrounding integument. In fact, they appear to be patches of chronic congestion rather than infiltration. The evolution of the macules is tardy, and a year or more may be occupied before they attain any considerable size. It is possible that these macules may exist singly, but the writer has recognized them only when multiple; and in one case of this sort the lesions had been previously diagnosticated as psoriasis. These macules may undergo complete resolution, and leave little trace of their previous existence. Under these circumstances the propriety of classing them as a variety or lesion of sarcoma might be seriously questioned were it not for the fact that they not infrequently become the starting-point of typical sarcomatous growths. After the macule has attained a certain size, an elevation at one point occurs, developing into a tubercle and ultimately into a tumor. (Plate XX).

FIG. 14.—Small Round-Cell Sarcoma.

The primary tubercle of sarcoma may develop at the site of some long-standing innocent growth, as a mole, etc., or may take its origin in apparently

PLATE XX.

normal skin (Plate XXI and Fig. 14). The former is the more usual course in persons advanced in years, while the latter is commonly the case in children and young persons.

The progress of sarcoma is usually rapid, and a tubercle in a few weeks may deserve the title of tumor, and after the lapse of some months may attain the size of a child's head or even larger.

The sarcomatous tubercles and tumors present one character which is in striking contrast with carcinomatous growth. I allude to their consistency. Sarcomata are soft, sometimes of almost jelly-like consistence, while carcinomata are hard.

After sarcomata have attained a certain size, they usually soften in the more central and older portions, and break down, forming a fungoid ulcer, from the base and edges of which secondary sarcomata may spring. Occasionally the margin of the ulcer becomes epitheliomatous.

No age is exempt from the development of sarcoma, but it is decidedly more frequent before the age of fifteen and after forty-five than during the intermediate period; in other words, its times of selection are before the tissues of the body are fully matured, and later when they are undergoing the degenerations that ultimately lead to the grave.

When we compare the three most important tumor types—namely, carcinoma, fibroma, and sarcoma—we are immediately struck with their peculiarities and contrasts. Carcinoma is specially prone to occur late in life; it is a malignant growth, composed of tissue elements which are little viable, and do not form permanent tissue, but ultimately break down with ulceration. Fibroma, on the other hand, prefers the middle period of life, is benign, and is composed of viable and permanent tissue; while sarcoma, as we have seen, prefers the extremes of life, and is malignant, its elements not going to the formation of permanent tissue.

Sarcoma may be characterized by the development of either single or multiple tumors. When single and not interfered with they may attain a considerable size. The writer once removed, with the galvano-cautery loop, a pedunculated sarcoma of the thigh, the pedicle of which was nine inches in circumference, and a myxo-sarcomatous breast, the base of which measured

seven inches in diameter. When multiple the tumors vary in size from that of a pea to that of a hen's egg.

Hæmorrhages accompany advanced cancerous disease, but they are insignificant compared with those which may occur in sarcoma. The extreme vascularity of the new growth and the unsubstantial character of the vessel's walls are sufficient to account for this pronounced hæmorrhagic feature, which is met with not only in old and advanced tumors, but even in those that are small and have had but a few weeks' growth.

Sarcomata may appear on any portion of the integument, and, in the writer's experience, exhibit little preference for any particular location, and after they have existed for some time are liable to develop on the mucous membranes, and also invade the viscera.

The general health and vigor may be apparently unimpaired during the early periods of the existence of sarcoma; but as the disease advances, these gradually fail, but without, however, the development of a *cachexia*, as marked as in the latter stages of cancer.

Prognosis.—The prognosis of sarcoma varies. In single small tumors of recent appearance it is good, as they can be easily removed; and when the operation is properly performed they do not as a rule return. When sarcoma becomes generalized, however, the prognosis is unfavorable, and this is specially the case when complicated with melanosis. Large sarcomatous tumors are usually fatal.

Diagnosis.—In the majority of cases the diagnosis of sarcoma is easy, although the writer once removed a sarcoma without suspecting its nature until after the operation had been completed; and on another occasion hesitated for some time between the diagnosis of sarcoma and syphilis. The malignant *facies* of the growth should instantly exclude fibromata and other benign tumors, leaving cancer as the principal affection from which it is to be differentiated.

Treatment.—Beyond attention to the general health, there need be little expected from internal treatment, although there are undoubted cases of sarcoma on record in which arsenic administered in full doses exerted a favorable influence and perhaps even effected a cure.

In small and young single sarcomata mechanical removal should be effected

PLATE XXI.

just as soon as a diagnosis is established, and either the knife or the curette may be employed, care being taken to remove a considerable portion of the apparently healthy skin. When larger—that is, from the size of a chestnut to that of an egg—these measures are to be advised if the location of the tumor will permit. Before the operation is begun, however, special provision should be made against hæmorrhage, which, from the large number and size of vessels entering the tumor, may be excessive. As a hæmostatic under these circumstances, the writer prefers deliquesced chloride of zinc and the actual cautery, in addition, perhaps, to a considerable number of ligatures. In very large sarcomata, in which an ultimate fatal termination is to be anticipated, removal is hardly to be recommended, except as a palliative measure, looking only to temporary relief. In these cases removal by means of a loop of platinum wire heated by electricity is to be preferred to the knife, on the score of safety from hæmorrhage.

PLATE XX. Sarcoma.
PLATE XXI. Sarcoma.

FIBROMA.

This name is applied to tumors of varied size and form, which take their origin from the dermal or sub-dermal tissues, which are single or multiple, and vary in size from a small nodule to a tumor of many pounds' weight. These tumors may be sessile or pedunculated.

The affection is chronic, taking years for its complete development, but the growths are usually painless, and give little or no inconvenience, except such as may arise from their size or particular location.

The causes of fibroma are unknown, but they are of perhaps more frequent occurrence in mulattoes than in either the pure white or black races.

DIAGNOSIS.—Fibromata are to be distinguished from sarcomata and neuromata, and this may be readily done when we remember that the former are of more rapid growth, and exhibit changes in the color and texture of the skin, which in fibroma are unaffected. Neuromata are usually painful.

TREATMENT.—Excision is the only practicable method of treatment, and this is to be recommended only when the tumors are few in number, or when their situation demands it.

PLATE XXII. Fibroma (from a negative by Dr. R. M. Fuller).

KELOID.

Keloid is characterized by the growth upon the skin of one or more rounded or oval, flat, smooth-surfaced tumors of varying size, from the margins of which irregular projections are frequently met with.

The development and progress of the affection is chronic, and is attended with but little pain or other inconvenience. The color of the skin is in some cases little changed, while in others it becomes paler and even completely blanched, like that of ordinary scar tissue.

The affection is said to arise spontaneously, and at other times at the site of some traumatism or wound of the skin; and the terms true and false keloid have been applied to these two forms, which are to be distinguished only by their etiology.

We know, however, that keloid may arise from even the minutest wounding of the skin, as from the prick of a pin or lancet-point; and the writer deems it not improbable that all keloids are of the traumatic variety, and that the so-called "true" keloid does not exist.

ETIOLOGY.—The etiology of keloid is unknown, and we can only say that some individuals possess a certain peculiarity or idiosyncrasy that leads to the development of this curious affection.

TREATMENT.—Excision, cauterization, potential caustics, whether alkaline or acid, when of sufficient power to rapidly destroy the tumor, are almost invariably followed by relapse and often in an aggravated form. We have, however, seen permanent relief from scarifications followed by the application of acetic acid. The operation should be repeated a number of times, according

PLATE XXII.

FIG. 15.—Keloid.

to the size, etc., of the tumor. In cases of excessive keloidal growth, excision may be employed as a means of temporary relief.

SCLERODERMA.

Scleroderma is a chronic circumscribed affection of the skin, appearing on almost any part of the body, having been observed on the face, neck, upper

and lower extremities and elsewhere. It commences with slowly-forming infiltration, apparently permeating the entire thickness of the skin, with slight elevation of the affected area. The color is slightly heightened, with a brownish-red tint. At the same time the integument becomes matted to the underlying connective tissue and fasciæ, and so tightly bound down to them that no motion of the skin over them is possible, resembling scleriasis in this respect. This condition remains for a varying period, with constant tendency to spread, usually in the form of a band. Thus, when it commences on one of the lower extremities, for instance, it slowly progresses upward, involving a breadth of integument equaling perhaps one fourth or one third of the circumference of the limb. After a time the other limb, or one of the arms, may become involved. As the disease progresses, however, the parts first involved undergo a change. The infiltration subsides, and gradually reveals the fact that the normal connective tissue of the skin has in part disappeared. In other words, marked atrophy is manifest. The skin, however, has not loosened its hold on the underlying tissues, and still remains as firmly bound down to them as ever.

The affection is accompanied with very little pain or other local inconvenience, except so far as it interferes with the free action of the joints and muscles.

Diagnosis.—The diagnosis of scleroderma is not difficult, as the hide-bound condition here described is met with in but one other affection, namely, scleriasis, described below. The history of the invasion and the course of the affection should be sufficient to enable it to be distinguished from the one just mentioned.

Prognosis.—The prognosis of scleroderma varies. In some cases it may continue for many years without apparently compromising the general health, while at others its progress may be more rapid, and possibly be the exciting cause of visceral troubles that ultimately prove fatal.

Treatment.—There are no drugs known to the author which, given internally or applied externally, influence the progress of this disease in the slightest degree. Frictions, massage, and the constant galvanic current, however, will sometimes do so, as our own experience has proved on several occasions, resulting in very marked improvement in the condition of the affected parts.

SCLERIASIS.

Scleriasis is an acute affection of the skin, characterized by the sudden development of a curious scleroid condition over an extensive surface. In a few days the greater part of the integument of the chest, abdomen, or back may, without change of color or any inflammatory symptoms, become rigid and firmly bound down to the tissues beneath. It appears to have absolutely lost its elasticity, and to be so firmly attached that it is as impossible to raise or pinch it up in folds as it would be to pinch up paint or varnish from a board.

This condition may exist in varying extent and of varying degrees of severity for several weeks, when a gradual return to the normal may ensue.

The prognosis is good, as the cases usually if not invariably recover.

The etiology is obscure, but the writer is inclined to the opinion that the affection is of rheumatic origin.

TREATMENT.—Little need be done in the way of special treatment, but proper attention should be given to the correction of any marked impairment of the general health. Turkish baths and massage, with or without electricity, appear to shorten the course of the affection.

SCLEREMA NEONATORUM.

This is an affection of the skin met with in new-born infants, in which the greater part of the integument may become rapidly involved, in a process which results in a generalized hide-bound condition, which interferes with motion of the limbs, and even restricts the action of the thoracic muscles. A fatal termination is usually to be looked for in a few days.

The nature of the disease is obscure—in fact, its exact etiology is unknown; but its general features point to a close relationship to the affection described as scleriasis, as met with in adults—the better prognosis in this latter disease being due to the greater resisting powers of the adult.

Treatment, other than sustaining, appears to be of little avail.

MORPHŒA.

Definition. — Morphœa, formerly called Addison's keloid, is a chronic cutaneous affection, characterized by the appearance of one or more discrete spots or patches, usually isolated and roundish in form, pinkish in color, and slightly elevated when hyperæmic and hypertrophic, surrounded by a tinted or violaceous border, later becoming whitish, anæmic, atrophic, and slightly depressed; and upon their surface, in the early stage, may be seen small streaks of dilated blood-vessels.

Forms.—This rather infrequent affection assumes various definite forms, according as the character of its development is mainly hypertrophic or atrophic.

Patches of the first form, which is mainly hypertrophic, enlarge until they are of the size of small or large coins, and are roundish in outline; after a preliminary hyperæmic stage, they gradually assume a lardaceous appearance, and later on show a distinct atrophic aspect.

Lesions of the second form, which is mainly atrophic, manifest little or no tendency to hyperplasia, and occur in small, pit-like, or slightly depressed, cicatriform or telangiectasic, isolated or grouped spots or streaks, forming *maculæ et striæ atrophicæ.*

Symptoms.—A typical case of morphœa usually makes its appearance by the formation of one or more roundish, circumscribed, hyperæmic, slightly elevated macules or patches, varying in diameter from one quarter to a couple of inches; the center gradually whitens, and is bordered by a tinted circle of violaceous or pinkish hue, composed of dilated capillaries, and often there is to be seen a plexus of small blood-vessels extending upon the surface of the lesion. The hyperæmia of the patch is soon succeeded by an anæmic state, which may be sometimes so decided as to cause a slight depression of its surface. The patch, from this time, undergoes a gradual change until it presents the characteristic smooth, lardaceous appearance, resembling inlaid wax, or old ivory. The connective tissue of the skin is increased and becomes condensed. The activity of its process of development becomes lessened during this stage of the disease and enters on a chronic course. The skin of the patch may be soft, or quite firm and inelastic.

In its further progress the affection may manifest atrophic changes in the

Plate No. 23.

tissues as well as of the glands and vessels of the affected skin, resulting in contraction and also depression of its surface, together with a lessening or cessation of the secretions of the sweat and sebaceous glands; and the skin feels stretched and thinned. These later changes may extend over a period of years and become permanent, or the affection, before it has become decidedly atrophic, sometimes displays its tendency to recovery by the disappearance of the lesion.

The distribution of the lesions is asymmetrical, and has been found upon various regions of the body, as upon the face, chest, back, buttocks, arms, and thighs. The shape of the patches, even in individual cases, is irregular, and varies, being round or elongated, but usually roundish.

In its early stage, morphœa develops usually without any or but slight attending subjective symptoms; later, there may be more or less anæsthesia.

Diagnosis.—In its advanced stage, morphœa is so characterized that its diagnosis is readily made. Sometimes, however, it is so very like scleroderma that it is difficult to differentiate between them.

In scleroderma the patches are usually symmetrically distributed, and the affected skin is hide-bound, or can not be lifted up into a fold by the fingers, and feels hard. In morphœa the patches are asymmetrically distributed, and the affected skin feels soft or firm.

In scleroderma the patches are not circumscribed, but show a tendency to spread over a large surface, and at their border merge indistinctly and gradually into the surrounding skin. In morphœa the patches are often distinctly circumscribed, and confined to a limited area; and in their early stage are surrounded with a tinted border of pinkish or lilac hue, or the surrounding healthy skin is more or less pigmented.

When the pigmentless spots in vitiligo resemble the whitish spots of morphœa, it is only to be remembered that the former is due simply to the absence of pigment, while the latter is caused by an abnormal state of structure, and of vascular supply.

Patches of morphœa sometimes present appearances very similar to those of anæsthetic leprosy. The objective and subjective symptoms in the progress of these diseases are so different as to render the diagnosis between them certain.

Prognosis.—The prognosis of the disease is, to a certain extent, favorable,

but depends largely on the degree of development, particularly if it has not yet become atrophic. In this latter condition the lesions are lasting; but in its earlier stage, and especially when there is only moderate hypertrophic change in the connective tissue, there is a tendency to spontaneous disappearance.

Its course of development, when mainly hypertrophic, is quite short, as compared with the period elapsed during the atrophic stage, which is usually slow and chronic, extending over several years.

Etiology.—The cause of this disease is yet to be determined. From what is known concerning the functional disturbances and trophic changes that occur in the development of its lesions, and their appearances in the hypertrophic and atrophic stages, the disease is thought to be due to some disorder of the nervous system, and probably of tropho-neurotic nature. Its occurrence has been noted mostly in females, and is at times attended with symptoms of more or less nervous debility. Scleroderma, in some essential respects, resembles morphœa, and inferentially is very likely of a similar origin. Indeed, some view morphæa as merely a localized form of scleroderma.

Pathology.—The pathology of morphœa is not definitely known. Observers who have made examinations of patches in various stages and forms of the disease have found either pigmentation of the deeper epithelial layers; marked hyperplasia and condensation of the connective tissue, with shrinkage of the papillary layer, and obliteration of the vessels; atrophy of the glands; and more or less anæsthesia.

Treatment.—In the stages of this disease, amenable to treatment, benefit is to be derived from such constitutional remedies as will assist the natural tendency to recovery; such as arsenic, cod-liver oil, iron, quinine, and strychnine, together with general beneficial hygienic influences. Also, locally, some mild stimulant may be applied, as a mercurial preparation, and electricity to promote resolution.

PLATE XXIII. Morphœa (from a patient presented to the New York Dermatological Society by Dr. S. Sherwell).

PLATE XXIV.

ELEPHANTIASIS.

Elephantiasis is an affection characterized by great hypertrophy of the integument of either the leg or scrotum in men, or leg or labia in women, or both locations may be involved at the same time. It is a disease not infrequently met with in tropical countries, but occurs more rarely in northern climes as well.

In the development of this disease general symptoms precede the local ones, and the first indications are usually a sharp, febrile attack, in no way distinguishable at the beginning from an ordinary severe paludal fever. In a few days, however, pain in the groin, with swelling of the lymphatics, is noticed, and this in turn is followed by more or less œdema of the foot and leg. After the subsidence of the febrile attack the œdema of the limb abates, but does not as a rule wholly subside. After a varying and uncertain interval a second febrile attack occurs, with renewed swelling of the limb, which but partially subsides, leaving the part still a little larger than before. These attacks succeed each other irregularly several years, until finally the leg or other part affected may attain an enormous size.

ETIOLOGY.—Elephantiasis is unquestionably due to obstruction of the lymphatic circulation; and this in turn has been most conclusively proved in many cases to be due to the presence of a minute worm, the *filaria sanguinis*, which lodges and excites inflammation in the lymphatic glands and produces occlusion of the vessels. The febrile attacks, which occur with a certain periodicity, may be due to the development of fresh broods of *filaria*. This parasite, however, is not met with in the higher latitudes, in which cases of the disease are sometimes encountered; and hence these latter need some other reasonable explanation, which we regret to say is not forthcoming.

TREATMENT.—For elephantiasis of the scrotum there is but one rational method of treatment—namely, amputation. This, when performed with care, is usually successful, tumors of sixty or seventy pounds weight having been removed without fatal result.

For elephantiasis of the lower extremity several methods have been employed—namely, amputation, ligature of the femoral artery, electricity, and press-

ure. With the exception of amputation, which is not to be recommended on the score of safety, the measures named are but palliative, and rarely, if ever, make a complete cure—that is, a return of the limb to its normal size. Of them all, however, the writer prefers continuous compression with an elastic Esmarch or Martin bandage, a method which he believes he was the first to practice and to recommend.

PLATE XXIV. Elephantiasis.
PLATE XXV. Elephantiases.

MILIUM.

This name is given to an affection characterized by the appearance of minute white or pearly papules.

These little papules are usually clustered about the eyes, sometimes on the upper and the lower lids, and often on the cheeks just below the eyes. They correspond to sebaceous glands, of which the orifices have in some manner become occluded, thus allowing an accumulation of sebum. They are much more frequently met with in women than in men.

TREATMENT.—Milia are readily removed by dividing the thin skin that retains them with a sharp curved needle ground flat on the curve. A little pressure is exerted, and the tiny white sebous concretion rolls out.

COMEDO.

This name is applied to an affection of the skin characterized by little black points corresponding to the openings of the sebaceous follicles. If the skin in the neighborhood of these specks be squeezed between the finger-nails, the sebaceous plug which fills the follicles will be pressed out.

This affection is more frequent in youth and adolescence than at any other ages. The glands of the face are the ones that are chiefly affected.

The causes of comedo are probably similar to those which lead to the

PLATE XXV.

development of ordinary acne simplex, in company with which affection they are usually found, though they sometimes exist without any inflammatory complication.

TREATMENT. — The comedones may in most instances be readily removed by pressure with the fingers or aided by some one of the many comedon extractors that will be found at every instrument-maker's. Sexual hygiene is to be enforced if the trouble is to be radically cured.

SEBORRHŒA.

Seborrhœa is a functional affection of the sebaceous glands, and its chief varieties are seborrhœa oleosa, sicca, and kerativa.

SEBORRHŒA OLEOSA.

This variety is characterized by the excessive formation of a thin, oily, sebaceous secretion, which flows in abnormal quantity from the orifices of the glands and covers the affected parts with a shiny and greasy coating, plainly visible to the eye, and on this account annoying to the patient. The usual seat of the trouble is the forehead, cheeks, and nose, and especially the latter. If this organ be taken between the fingers and squeezed, the fluid may sometimes be seen to exude like little droplets of sweat. The affection is perhaps most frequent in youth, and often lasts for several years, and appears to be connected with puberic changes. If the secretion be not wiped off, it may lose its watery parts by evaporation and leave thin scales, consisting of epidermic cells mingled with oil-globules, and more or less dirt and dust from the atmosphere.

SEBORRHŒA SICCA.

In this variety there is excessive formation of sebum, possessing more nearly the character of the normal secretion—that is, less fluid than in the last-named affection. There is also a larger proportion of epidermic cells, and these, mingled with the oil, dry upon the skin as thin, slightly adhering, and usually circumscribed crusts. The affection is usually of an extremely mild inflammatory type, with slight redness of the skin underlying the scales. It may be found on the

situations favored by the last-mentioned variety, or upon the chest in man and other parts where the sebaceous glands are well developed, but the hairs not so abundant or long as upon the head,* except in infancy, during the early periods of which it is quite common.

SEBORRHÆA KERATIVA.

This affection is rare and peculiar, and the few cases that have been observed during recent years, have been described under a variety of names, viz.: sauriderma, or ichthyosis spuria (Wilson), keratosis follicularis (Morrow),† etc. It appears to consist in a hyperplasia of the lining cells of the sebaceous glands, associated with keratization in place of the usual fatty degeneration of these cells. The result of this pathological process when generalized is a condition of the skin that may be likened to the surface of a magnified nutmeg-grater. The orifices of the sebaceous follicles are widened, and from them project horny plugs in almost infinite number. The affection is chronic in its development, spreading gradually until almost the entire surface is involved. We have little definite knowledge of the subsequent course of the affection.

Recently Darier has described an affection somewhat resembling seborrhœa kerativa, in which he claims to have found a psorosperm, or animal parasite.

Diagnosis.—The diagnosis of seborrhœa *oleosa* is self-evident.

Seborrhœa *sicca* is to be distinguished, on the one hand, from eczema *oleosa* (eczema seborrhoicum), and, on the other, from pityriasis capitis. This latter is distinctively an affection of the adult scalp, characterized by excessive hyperplasia and exfoliation of the horny cells of the epidermis, and mingled with but a scant amount of sebaceous secretion.

Treatment.—In the treatment of seborrhœa oleosa, the writer has seen decided benefit result from the use of electricity (constant current), from applications of gelatinous precipitated silica,‡ and from lotions containing hydrochloric

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* The German writers have improperly applied the name *seborrhœa sicca* to the affection of the scalp, previously and more correctly known as *pityriasis capitis*.

† Journal of Cutaneous and Venereal Diseases, September, 1886.

‡ Made by adding a dilute solution of silicate of soda to dilute hydrochloric acid.

PLATE XXVI.

and chromic acids—either of which may be employed in the strength of from two to four per cent.

Seborrhœa sicca demands much the same treatment. In localized patches the acids above named may be applied in somewhat stronger solution with beneficial effect, or the ordinary white precipitate ointment may be used. The affection yields readily to treatment.

In seborrhœa kerativa little can be said from actual experience. The patient, from whom the illustration was taken, first appeared at the writer's clinic early in 1886. His history in full was, later in the year, published by Dr. P. A. Morrow (*loc. cit.*). He then disappeared from view, but a year later again came under my observation. The patient had recently been subjected to a course of green soap, which had removed the protruding cornified sebaceous plugs, and excited inflammatory action in the glands themselves. It was during the existence of this condition that the photograph was taken. Soothing applications were quickly followed by almost total disappearance of the eruption. Judging from this case, it would seem that the affection may be relieved by the induction of an artificial substitutive inflammation.

PLATE XXVI. Seborrhœa kerativa.

ACNE.

Acne is an inflammatory affection of the sebaceous glands.

In confining the use of the term *acne* within these narrow limits, and in excluding the numerous affections which by many authors have been made a part of it, we are enabled to obtain a clearer view of the disease in question, and dissociated from others that are but little allied to it.*

Acne, in its mildest form of development, consists of a small papule, usually seated on the face, chest, or back. The papule is red, pointed, and may be slightly

* The names acne sebacea, acne punctata, acne miliaris, acne rosacea, acne varioloformis, acne atrophica, etc., all have synonyms that more truly describe them, and these terms should be dropped from use in practical dermatology.

sore to the touch, presenting the usual features of a localized inflammation. The papules may vary in number from one or two to several hundred, scattered over the nose, cheeks, forehead, temples, chest, and back. The little pimple may, on pressure with the finger, present slight firmness, indicative of the inflammatory effusion. After a few days it may undergo spontaneous resolution and disappear, others appearing from time to time to take the places of those which have disappeared. This constant succession may be kept up for an indefinite period. Instead of undergoing resolution, pus may make its appearance, either at the summit of the papule or more deeply in its structure, thus converting the papule into a pustule. If the pustule be squeezed between the fingers, the pus is discharged, and with it the somewhat altered contents of the sebaceous gland. This form of acne, in which there is little or no implication of the tissues surrounding the follicle, is usually termed acne *simplex*, or on account of the age at which it is most prevalent, acne *juvenilis*.

The variety of acne just considered is the special appanage of youth, and occurs in both sexes between the ages of fifteen and twenty-five. Associated with it we frequently and perhaps usually find comedones in greater or, less number scattered over the surface affected by the acne.

In more advanced life—from twenty-five or thirty up to fifty years—we may encounter a form of acne characterized by much larger lesions than those of acne simplex. In fact, they are large enough to be classed as tubercles, and the affection has received the name of acne *tuberculata*, and, when seated on hardened bases, acne *indurata* (Plate XXVII). In this form there is more or less involvement of the tissues surrounding the follicles. These larger lesions are usually more sluggish in their development and coarser than those of acne simplex, but go through essentially the same phases as the smaller ones. That is, there is the same tendency to pus formation, and the larger ones may form veritable abscesses, followed by permanent cicatrices (Plate XXVIII).

Etiology.—Some writers pretend that acne is a purely local affection, and not due in the remotest degree to any internal derangement. To this view we can not subscribe. Acne, to our mind, is clearly a reflex affection, and in direct relation to the reproductive and digestive systems. Its frequent occurrence at the time of puberty, its special development in those who masturbate,

PLATE XXVII.

its usual aggravation at the time of the menstrual period, and its cessation when bad habits are abandoned or menstrual difficulties removed, force us to the opinion that the cause of acne simplex is to be sought beneath the surface and in the direction indicated. Acne tuberculata is not a very common affection in women; but when not associated with intemperance will usually be found accompanied by disease or derangement of the uterine or ovarian functions.

Gastric and hepatic disturbances, associated with constipation, are unquestionably important factors in the causation of acne, and too free indulgence in alcoholic stimulation is well recognized as the promoter of acne tuberculata in men who are advancing from youth to middle age.

TREATMENT.—Time alone, without special medical treatment, is sufficient in many cases of acne simplex in young persons to bring about a cure. Acne simplex is in a certain sense a self-limited affection, but this limitation is not a matter of weeks or months but of years, and the patient who leaves the affection entirely alone may usually count on six or eight years of annoyance. The majority prefer a quicker cure, and to that end consult the physician. Now, the "cure" of an acne involves two quite different questions. The first relates to the speedy removal of the existing eruption, and the second to the prevention of the ever-recurring tendency to relapse.

In acne simplex the measures best calculated to promote disappearance of the eruption are: puncture of the papules and pustules; hot fomentations, in cases characterized by marked inflammatory action; stimulant and discutient applications in those of a more sluggish nature. We believe it to be good practice in every case to puncture the papules with a lancet-point, and at the earliest possible moment. If pus has already formed, this should be squeezed out. Hot fomentations for several minutes should then follow, and the fomentations with water, as hot as it can be borne, repeated night and morning.

In subacute cases an artificial irritation should be set up by nightly rubbing with green soap. Usually in a week, or in less time, the skin will be inflamed to as great an extent as the patient's endurance will permit. Soothing applications should now be employed, and in a few days the irritation will subside, accompanied with desquamation of the outer layers of the cuticle. This will be followed by a greater or less disappearance of the eruption. If necessary, the applications

may be repeated. In like manner sulphur, either pure or diluted with some violet powder, may be applied with a ladies' puff. Chrysarobin, in the strength of four or ten grains to the ounce of traumaticin, effects similar results. The writer usually depends on one or the other of the applications last mentioned. In the use of chrysarobin, however, it will be wise to commence with rather mild applications confined to the papules themselves, and not permitted to spread to the adjacent healthy skin, as this drug when too freely applied to the face may set up a considerable degree of inflammation, almost simulating erysipelas.

The effect of internal medication in acne simplex sometimes appears to be very striking, and at other times absolutely *nil*. The drugs which we have found most useful are, in ordinary cases, calx sulphurata, arsenic, and ergot. The first of these is decidedly the most useful, and may be given in doses of one tenth to one half a grain two, three, or four times daily, bearing in mind that the more acute the process the smaller the dose should be, while in sluggish and indolent lesions it should be pushed to the maximum. The dosage of arsenic should be governed by the same principles. Ergot was introduced into the treatment of acne by Dr. Denslow. It has appeared to me to be specially useful in the treatment of pustular acne in females. Whether it directly affects the local circulation, as believed by Dr. Denslow, or whether its primary effect on those cases is on the pelvic organs, I do not know. It has also been followed by good results in males.

In patients who are suffering from anæmia, struma, etc., iron and cod-liver oil should form an important part of the treatment.

In acne tuberculata and indurata the same general principles of treatment are to be followed; except than in these forms arsenic has appeared to me to be of very little use. On the other hand, iodide of potassium, in doses of five to ten grains, has in some instances been followed by favorable results.

The foregoing applies to the removal of the existing eruption. The prevention of relapses, or frequent outbreaks of eruption, is quite another matter; and success in this regard will be due to the accuracy with which the practitioner unravels the etiological factors, and is successful in bringing about their removal or amelioration.

PLATE XXVII. Acne indurata.

PLATE XXVIII. Cicatrices following acne.

PLATE XXVIII.

ROSACEA.

Rosacea is a chronic affection confined to the integument of the face, and more especially of the cheeks, nose, and forehead.

It usually commences by the appearance of pinkish or red macules, which are apparently nothing more than localized points of congestion from which the color may be momentarily removed by pressure, to return again as soon as the pressure is removed. At first these little spots or macules are scattered irregularly over the affected area; but gradually, either by development of new ones or increase in the size of the old ones, a diffuse blush is plainly marked and not infrequently is symmetrical. This may be termed the first stage of the affection.

As months and perhaps years roll by, however, certain changes take place, and the first of these is a gradual dilatation and varicosity of the capillary vessels, specially noticeable on the cheeks and also nasi, rarely on the forehead. Accompanying these and scattered over the surface we may find papules and pustules whose seat is in the sebaceous glands. In other words, we have an acne complicating the rosacea. To this condition the name *acne rosacea* is often given. This designation, however, is not correct, as the acne is purely secondary, and due to the congestion accompanying the rosacea. This condition of congestion with enlarged capillaries, and with or without acne, may be termed the second stage of rosacea.

As the disease progresses, the skin becomes thickened; slightly so on the cheeks and forehead, but to a very notable extent on the nose. In this latter region the hypertrophy of the integument may become so great that the organ in question attains double or treble its natural size.

ETIOLOGY.—In many cases the causes of rosacea are obscure—that is, the usual causes are not existent, or at least not discoverable. In the majority, however, we can usually ascertain that the rosacea has been preceded by either gastric or uterine disturbance. In women uterine trouble is far more frequently the *fons et origo* than gastric. In men, however, dyspepsia and a congested liver, usually the result of too free indulgence in ardent spirits, kept up for a term of years, will be found sufficient to account for the disease. We are by

no means certain, however, that genital disturbance, and especially stricture, may not be the exciting cause of rosacea in some cases.

TREATMENT.—Rosacea was formerly considered as a well-nigh incurable disease. This, however, need no longer be said, as the majority of cases may be greatly benefited and some of them permanently cured. In the management of every case of rosacea we should first seek to ascertain the exciting cause. If too free indulgence in alcohol be the main etiological factor, it is needless to say that the physician should insist on amendment of the patient's habits, as it is folly and a waste of time to attempt any remedial measures so long as these are uncorrected. If dyspepsia and a torpid liver be present, cholagogues may be employed, especially the milder ones of vegetable origin, though the treatment may be opened with two or three blue-pills or a round dose of calomel. In few of the cutaneous diseases are the effects of mineral waters more conspicuous than in these cases of rosacea; and waters containing sulphate of soda or the salts of magnesium are, as a rule, to be preferred. The dose, however, should not be large—not large enough to purge—but just sufficient to procure one stool a day or at most two. A half or whole glassful before breakfast of any of the better known laxative waters is usually sufficient to accomplish all that is required; but the use of the water should be kept up for some time.

In women, if any form of uterine or ovarian derangement be present, effort should at once be made to correct it, either by the physician in charge of the case, if he be able, or, if not, with the aid of a more competent colleague. Often medicine alone will be sufficient; but very frequently we have been obliged to seek the assistance of an accomplished gynecologist.

The external treatment of rosacea will be governed in great measure by the stage of the eruption. In the first stage, where we have a simple chronic congestion, applications of sulphur are an old and frequently efficient remedy. Decided benefit, however, will often be obtained by the application of chrysarobin. Ten grains of this drug in an ounce of "traumaticin" is as strong as it is prudent to use until the degree of reaction produced by it is ascertained, after which it may be strengthened or weakened as may be necessary. If the rosacea be extensive, it will be wiser to apply the chrysarobin to but a portion

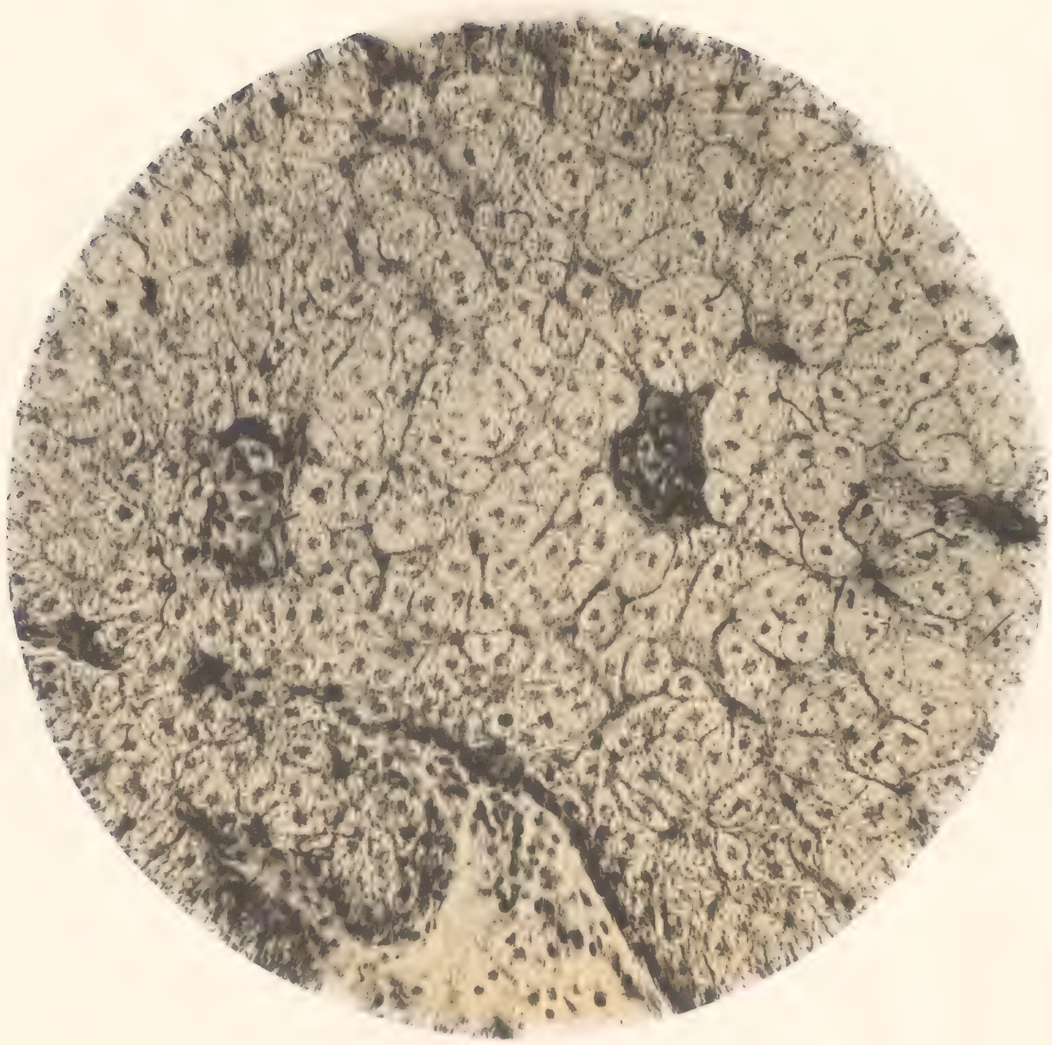

PLATE XXIX.

of it at a time. Usually three or four applications at intervals of twenty-four hours will excite as much inflammation as it is prudent to provoke. When this has entirely subsided, decided improvement in the rosacea will usually be apparent, and especially in cases characterized by moderate infiltration and the presence of acne.

In the second stage of rosacea, with dilated capillaries, these latter should first receive attention. They should be destroyed either by electrolysis or a heated needle, or the injection of a minute drop of solution of perchloride of iron.

In the third stage, with marked thickening and hypertrophy of the tissues of the nose, excision of a portion of the redundant skin will do much to reduce the organ to a normal size. The galvanic current, applied two or three times a week directly through the nose, will often produce a notable shrinkage of the affected parts. At least such has been the author's experience. Others have reported benefit from the use of the induced current.

It should again be said that rosacea is not the intractable affection that it was once supposed to be, and patients should not become discouraged until some at least of the measures above advised have been resorted to.

PLATE XXIX. Photo-micrograph by the author from a thin section of a sebaceous gland in rosacea. (The section was prepared by Dr. J. A. Fordyce.)

CHLOASMA.

Chloasma is a brownish discoloration of the skin, appearing on the face in women.

This affection is rarely met with in young women—that is, under the age of twenty-five. It may affect the forehead, temples, or cheeks, or all of those locations at the same time. The depth of color may vary from a light brown, at first hardly perceptible, to a very dark hue, rivaling the color of a mulatto. From the fact that it not infrequently develops during pregnancy, it has received the name of *macula gravidarum.* In the absence of pregnancy, it is also met with in connection with uterine disease, and when thus associated it has been called *macula*

uterinum. It is rarely, if ever, encountered except in association with one or the other of the above-named conditions.

There are no subjective symptoms connected with it, neither itching nor pain, nor any inconvenience apart from the fact that it is a blemish. It is on this account chiefly that the physician is most frequently consulted with a view to its removal.

When occurring during pregnancy, there is a possibility, and even a probability, that it will diminish, and perhaps entirely disappear after Nature has removed the etiological factor. It will probably return, however, with succeeding pregnancies. When it depends on uterine disease, we can hardly expect a spontaneous disappearance until this is removed.

TREATMENT.—As the brownish discoloration is due to a pigment deposit in the most superficial layers of the skin, removal of these by means of discutients affords a ready temporary relief, remembering that there will probably be a return so long as the conditions which produced it in the first instance are still in existence. The most effective and suitable agent for causing exfoliation is the bichloride of mercury, in the strength of three grains to the ounce of alcohol, or, better, equal parts of alcohol and tincture of benzoin. This should be applied daily until sufficient irritation is produced to cause desquamation. As different skins vary, in the degree of reaction to the irritation of this salt, it is well to apply it to but a limited surface at first, until the patient's susceptibility to its action is determined.

VITILIGO.

Vitiligo, or leucoderma, is an affection characterized by circumscribed patches of skin, from which the pigment has disappeared to a greater or less extent. At the beginning the patches will be quite limited in extent, and affect by preference the face, neck, hands, and genitals. As a rule, however, they increase for a certain length of time, and neighboring patches coalesce. The borders of the spots are usually somewhat hyperpigmented, as if the pigment which had been removed from the center had been simply deposited at the edges. This feature, however, is not always met with.

PLATE XXX.

The course of vitiligo varies. With some individuals it reaches a certain degree of development, and then remains stationary for years; in others it progresses indefinitely, and this is particularly so when it affects the negro race; and in a case reported by Dr. T. F. Wood, of Wilmington, N. C., the pigment gradually disappeared from the skin of a negress until none was left except a little in the region of the cheek-bones.

FIG. 16.—Vitiligo.

In perhaps the majority of cases there is a return of the natural pigment after the lapse of a few years, while in others the affection appears, lasts a few months and disappears, only to be followed by one or several recurrences. I have met with several patients in whom the pigment was absent during the hot months, and returned during the cold ones.

ETIOLOGY.—The causes of vitiligo are unknown. It occurs in both sexes with apparently the same frequency, and usually without being preceded by any acute disease, or general failure of health. In fact, the majority of patients will complain of nothing except the unsightliness of the affection, which may pursue its course uncomplicated by trouble that can be attributed to it. There is no reason for believing that it ever shortens life. When we consider the permanency and progressive nature of some cases, and the transitory character of others, we are utterly at a loss to account for this curious affection.

TREATMENT.—As we are not in possession of any drugs whose internal administration will bring about a proper redistribution of the pigment, nor any external applications that we can positively depend on to restore it to the blanched

areas, we are of necessity forced to confine whatever treatment we employ to the restoration of such other functional disturbances as we may be able to discover, bearing in mind the fact that in the majority of cases we will not find any.

PLATE XXX. Vitiligo.
PLATE XXXI. Vitiligo.

SCABIES.

Scabies is a contagious affection of the skin characterized by the development of vesicles, pustules, and other lesions on the skin, and caused by the presence of an animal parasite, known as the *Acarus scabiei*, or *Sarcoptes hominis*.

FIG. 17.—Scabies on the Glans Penis.

The affection usually commences by the appearance of small, non-umbilicated vesicles on the hands and between the fingers, accompanied with severe itching. The itching leads to scratching, and as a consequence transfer of the affection to other parts of the body with which the hands are brought in contact. Very early in the disease, then, we will find it appearing on the penis (Fig. 17), on the breasts in women, and on the feet in children. From these parts it may spread over the

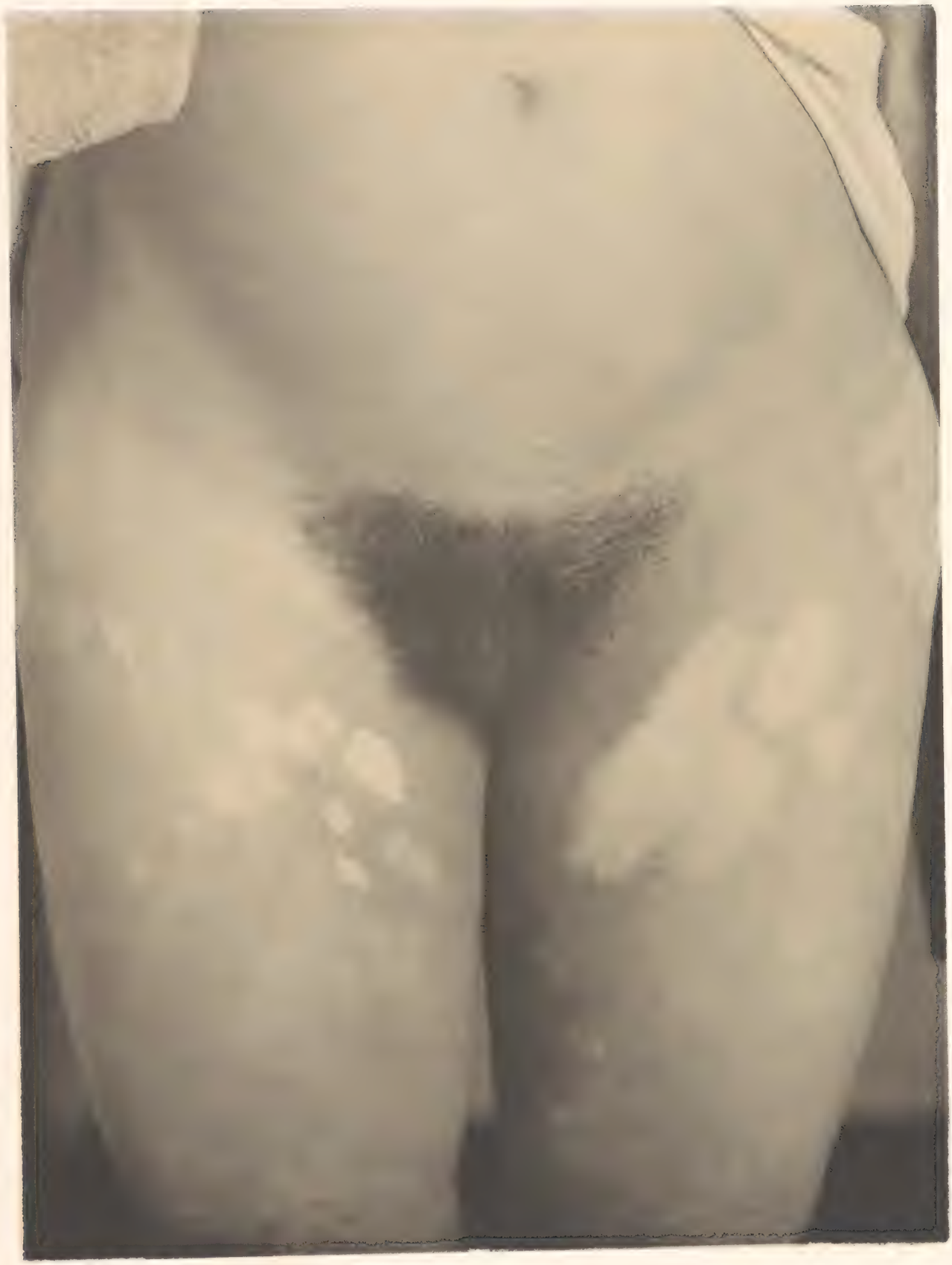

PLATE XXXI.

greater part of the surface, more profusely on the anterior than posterior parts and avoiding the face and scalp.

The vesicles above mentioned may be termed the primary lesions of the disease, but are usually followed in a few days by others secondary to the irritation produced by the insect, and to the effects of the finger-nails. These new lesions may be papular or pustular in character, and may even assume distinctly eczematous characters, or develop into a true eczema in those predisposed to this affection. On the penis the lesions are usually papular. None of these features are absolutely pathognomonic. There is, however, a lesion which is met with in no other disease, and which when found renders the diagnosis absolute. This is a fine, grayish line frequently terminating in a vesicle, and found between the fingers more frequently than elsewhere. It is called the *acarian burrow*. When an impregnated female acarus finds lodgment on the skin, she immediately seeks a place in which to deposit her eggs. This she accomplishes by boring beneath the epidermis and laying an egg, and then advancing in a straight or slightly curved line for several days until ovulation is complete. She then dies, and her decomposing remains give rise to a vesicle or pustule. When the eggs hatch, the young find their way to the surface, and as soon as they assume the adult form copulate, and the impregnated females commence to burrow as did their mother before them. A sharp needle-point, if guided by a sharper eye, will sometimes extract the acarus from her nest. The male acarus never burrows, and is very rarely detected.

Etiology.—Scabies is one of the few diseases of which we can say that we absolutely know the cause; and yet there is no chapter in medical history more interesting than that which concerns the etiology of this affection. As early as the twelfth century Avenzoar described a disease of the skin produced by little insects under the skin of the hands, legs, and feet. Later authors confirmed these observations; and one of them gave a description of the insect which could hardly be improved on at the present day. Despite all this evidence, the present century opened with a general disbelief in the reality of this parasite. In 1812 a French apothecary declared that he also had discovered the acarus, and exhibited it freely to all disbelievers. It was not long, however, before this pretended discovery was ascertained to

be a fraud, as the insect shown was nothing more than the ordinary cheese-mite.

In 1834, however, Raspail, a French physician, described and demonstrated the genuine acarus, and showed its connection with scabies; and since this time the question may be considered as settled.

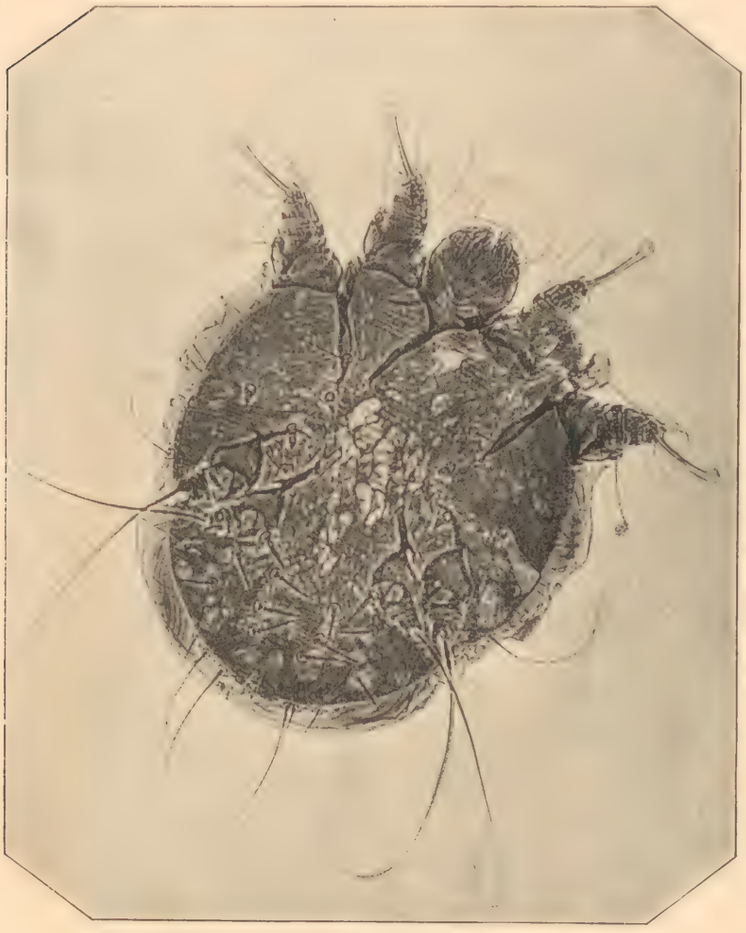

FIG. 18.—Female Acarus.

The acarus is exceedingly minute, and when first hatched has but six legs. It soon assumes its adult form, however, with eight legs; and the sexes are easily distinguished by the fact that in the female the four posterior legs are furnished with projecting hairs, while in the male two of these legs terminate in suckers instead of hairs.

DIAGNOSIS.—The diagnosis of scabies should not in most cases be difficult. The early vesicles on the hands are either to be found, or the patient may tell you that the affection commenced with small "watery pimples." Next examine the penis, and you will rarely miss finding papules on the glands or papules or vesicles on the cutaneous surface. Rather good-sized isolated pustules about the wrists are commonly present, and in women you usually find an eczematous eruption around the nipple. If on inquiry you find that one or the other of the patient's associates is suffering from a similar trouble, and that he has slept with him or worn his clothes, you may be fully confident of the diagnosis.

PLATE XXXII.

The mere presence or the intensity of the itching can not be relied on to establish the nature of the disease, as in several other affections intense pruritus is a marked feature; and this is notably the case in another parasitic disease—namely, phtheiriasis, produced by the *pediculus corporis*, or body-louse. The papules or other lesions on the penis should not be mistaken for lesions of venereal origin.

TREATMENT.—However distressing the present symptoms, the patient may be confidently assured of speedy relief. This may be most promptly brought about by adopting the following somewhat vigorous treatment: Put the patient into a warm bath and let him soak for fifteen or twenty minutes. Then let him be rubbed thoroughly all over with soft-soap, assisted with a flesh-brush. Every part of the body from the neck down should receive a thorough application of the soft-soap and water and brush, in order to break over the burrows of the insects. The soap is then washed off and the surface rubbed dry. Then rub the entire surface with alkaline sulphur ointment, to each ounce of which a drachm of iodide of potassium has been added. After a thorough inunction the patient should go to bed and stay there until the following morning. When morning comes a warm bath should be given to remove the ointment, and the patient should put on new under-clothes. The under-clothes and bedding that have been in use should be thoroughly disinfected by boiling or baking, in order to destroy any wandering acari. The treatment above detailed will be effective in the vast majority of cases; but it can not be denied that it is a rather severe procedure, and for a day or two the patient's skin will be far from comfortable, and the eczematous and other secondary lesions will be greatly aggravated. Emollient treatment, therefore, will in almost every instance be needed for a few days longer, and we know of nothing better than the free use of the oxide-of-zinc ointment.

PLATE XXXII. Scabies.

PHTHEIRIASIS.

Phtheiriasis is the name applied to the affections produced by the invasion of the three well-known varieties of *pediculus*—namely, the head-louse, body-louse, and pubic or crab louse.

The nature and appearance of these insects are so well known that we need not occupy space in describing them. The first of these infest the scalp; the second confines itself to the non-hairy portions of the surface; and the third prefer the pubic region, but may be met with wherever the hairs are short, but avoiding the scalp.

PHTHEIRIASIS CAPITIS.

This affection occurs most frequently in children, more rarely in women, and almost never in men. The insect (*pediculus capitis*) finds its most congenial abiding-place in the hair of children, where it lays its eggs, and attaches them by a kind of cement to the shafts of the hair. The eggs take but a few days to hatch, and in a short time the parts may become pretty thickly settled. They derive their nourishment from the skin, and by their presence produce considerable itching and lead to a corresponding amount of scratching. In children predisposed to eczema they not infrequently lead to the development of this affection.

The *diagnosis* is, of course, readily made, as inspection of the scalp will quickly reveal the presence of the insects and their ova, if at all abundant. In doubtful cases the fine-tooth comb will be found an efficient "trap."

The treatment of phtheiriasis capitis, of course, involves the removal of the insects and their ova, usually called "nits." In children, clipping the hair as close as possible, or perhaps shaving it, is, of course, the quickest way of relieving the patient of these pests. When this is not practicable, the scalp should be thoroughly washed with tincture of staphisagria, or with ordinary kerosene-oil. A few applications will kill the living insects, but do not appear to destroy the vitality of the ova. These should be removed as far as possible with the fine-tooth comb. Many, however, will still remain, and the best way to get rid of them will be to go over the scalp carefully and clip the shafts of all the hairs to which they are attached. The head should be watched for a week or ten days, for fear some

PLATE XXXIII.

PLATE XXXIV.

of the eggs may have escaped detection. It is almost needless to say that soap and water, freely used, are essential adjuvants to the means just mentioned.

PHTHEIRIASIS CORPORIS.

This affection is very rarely met with in young persons, and is found most frequently in middle and advanced life, and especially in the feeble and ill-fed, and among the frequenters of prisons and cheap lodgings. Though sometimes met with in women, nine tenths of the cases that come under observation are among men.

The *pediculus corporis* does not lodge upon the body, but infests and breeds among the folds of the under-garments, from which hiding-places it sallies forth to seek its nourishment from the skin. This it pierces with the *haustellum*, or sucker, and continues to feed until gorged with blood. These insects excite a lively and, at times, most atrocious itching, and lead to vigorous scratching. This is made evident to the eye by small, black points, caused by the desiccation of a minute droplet of blood. In addition, we may find red lines, or streaks, surmounted by blackish-red ridges of dried blood, and in severe cases extensive excoriations, pustules, and even ulcers. In cases that have lasted for any length of time, the skin gradually darkens, even to the color of a mulatto.

PLATE XXXIII. Phtheiriasis corporis.

PLATE XXXIV. Melasma, or darkening of the skin, in a case of Phtheiriasis of long standing.

Diagnosis.—After a little experience a case of phtheiriasis will in most cases be recognized at a glance, and should always be proved by a careful search for the insects. Strip the patient, if possible, and then examine *not his skin* but his shirt, and as a rule you will find the pediculi, if present, without difficulty.

Treatment.—Soap, water, and clean clothes are all that are necessary. The old clothes should be destroyed, or thoroughly disinfected by boiling or baking.

PHTHEIRIASIS PUBIS.

The *pediculus pubis* affects a preference for the pubic region of both sexes, but is not confined to this locality, but in women may also be met with in the axillary region and in the eyebrows, and in men among the chest-hairs and in

the beard and whiskers. It rarely gives rise to as much irritation as the other varieties of pediculus, and its presence is often discovered accidentally. The

FIG. 19.—Pediculus pubis.

insect attaches its eggs to the hairs like the pediculus capitis, and adheres to them itself or to the skin in the most tenacious manner by the aid of its crab-like claws.

The *diagnosis* is to be made by the discovery of the insect, but, having been found in its favorite seat, thorough examination of all other parts of the body liable to be infested should not be omitted.

The *treatment* of this affection involves the employment of some anti-parasitic application, and the one most in vogue is the common "blue-ointment." When, however, the patient will consent to it, shaving of the affected parts is to be preferred. The affection is most frequently contracted during sexual intercourse, but may be derived from wearing infected clothing, or sleeping in an infected bed. The patient's under-clothes and bedclothes should be boiled or baked, in order to destroy the insects and their eggs.

FAVUS.

Favus is a parasitic disease of the skin caused by a minute vegetable fungus.

This disease may affect any portion of the body where there are hairs; but its seat of predilection is the scalp, and especially the scalps of children. The fungus on which the disease depends, called, after its discoverer, the *Achorion Schonleinii*, falling on a congenial soil, gains access to the hair-follicles, where it spreads and multiplies. In a short time it is perceived on the surface as a whitish speck, and later forms a very light-yellow umbilicated crust, the center of which is perforated by a hair. A number of contiguous cups may coalesce, forming a crusty patch (Plate XXXV). The fungus, by its development and increase, presses on the follicular contents, and interferes with the nutrition of the hairs, and in time insures their destruction and permanent disappearance (Fig. 20). Favus of the scalp usually makes its first appearance in childhood; and we have twice seen it in infants less than six weeks old (Fig. 21). Spontaneous cure rarely, if ever, occurs; and the affection lasts indefinitely—that is, as long as there is a hair-follicle left for the achorion to lodge in. In this way the affection may be pro-

FIG. 20.—Favus of Fifteen Years' Duration. This patient was the mother of the infant shown in Fig. 21.

longed for twenty years or more. The most striking features of a long-standing case are the sparseness of the hairs over the affected area, the appearance pre-

FIG. 21.—Favus in an Infant Six Weeks Old.

sented being entirely different from that of any of the commoner forms of alopecia. The peculiar crusts may be present to aid the diagnosis, but not infrequently they are entirely absent from the surface, as various ointments, or even plenty of soap and water, are sufficient to prevent their development on the surface to an extent to prevent them to be visible to the naked eye.

The progress of the affection is extremely slow, and, when not checked by efficient treatment, may last for twenty years or more.

Favus on the body—that is, on the trunk or extremities—first exhibits its presence by a small erythematous patch like a commencing ringworm; this spreads until it has a diameter of an inch or so, when the characteristic crusts appear.

ETIOLOGY.—The disease is due, as has been stated, to a vegetable parasite, and through the agency of which it is transmitted from one to another. This disease is not infrequent in the common domestic mouse (Fig. 22), from which

animal it is sometimes conveyed to the household cat, who in turn transmits it to the children of the family.

Diagnosis.—In most cases the diagnosis is easy. If the affection is in full efflorescence, it can hardly be mistaken for anything else, as there is no other disease that presents the characteristic umbilicated, light-yellow, and dry crusts. In an advanced case the peculiar alopecia, marked by the presence of a few, scattered, lusterless hairs, distinguishes it from every other form of baldness. In doubtful cases the microscope will reveal the parasite, which consists of minute spores and mycelium.

Fig. 22.—Favus in a Mouse.

Treatment.—The treatment of favus of the general surface is exceedingly simple. All that is necessary is to pick off the crusts and make a few applications of tincture of iodine, or other efficient parasiticide, to the affected patches.

When, however, the affection is located on the scalp, it is exceedingly difficult to cure. The primary indication, of course, is to destroy the parasite. As this fungus flourishes in the lowest depths of the hair-follicles, ordinary applications made to the surface are not sufficient. It is necessary to attack the parasite in its stronghold, and this can only be done by first extracting the hairs. These should be removed by properly constructed epilation forceps. After epilation a solution of corrosive sublimate—say, two grains to the ounce—should be rubbed in. This should be repeated daily until a considerable degree of irritation is produced. This artificial irritation should be sufficient to produce exfoliation of the epithelial lining of the follicle. If the affected surface is at all extensive, it is hardly practicable to epilate and mercurialize the whole of it at a single sitting; it should be done in sections. This treatment should be continued with as much regularity and thoroughness as circumstances will

permit. In a few weeks the disease will appear to be cured; but in general this appearance is delusive, and treatment should not be relaxed simply because the disease is no longer visible on the surface. In all cases the patients should be kept under observation for several months after active treatment has been suspended.

PLATE XXXV. Favus.

TRICHOPHYTOSIS.

Trichophytosis is an affection of the skin due to the development of a minute fungus known by the name of the *Trichophyton tonsurans*. The disease itself bears the common name of "ringworm." There are four principal varieties of the affection, which present appearances differing somewhat from each other, due to differences of location. These are *trichophytosis capitis*, *barbæ*, *corporis*, and *genito-femoralis*.

TRICHOPHYTOSIS CAPITIS.

This variety is almost wholly confined to childhood and youth—very rarely, if ever, appearing in adult life. The symptom that usually first attracts attention is a small, scaly patch on the scalp, perhaps half an inch in diameter, from which the hair appears to have fallen. On closer examination, however, it is found that, instead of the hairs having fallen, they are broken off a line or two from the surface. If an attempt be made to extract a few of these short stumps with forceps, it will be found that many of them do not come out by the roots, but break off in the follicle, leaving the lower extremity of the root *in situ*. This fragility of the hairs is a marked feature of the disease, and brings it into contrast with favus, in which affection the hair-shafts are not notably weakened.

If one of the extracted hair-stumps be examined under the microscope, with an amplification of, say, 400 diameters, it will be found infiltrated throughout its entire extent with the minute spores of the *trichophyton*. This fungus, when it takes lodgment on the scalp, gains access to the hair-follicles, into which it descends until it reaches the bottom. Here it increases and invades the root,

PLATE XXXV.

and travels up the shaft toward the surface. It produces dissociation of the fibers, and thereby weakens the hair. After the surface is reached, there is no outside pressure to counteract the pressure from within the shaft, and the latter gives way and breaks off. The original patch extends centrifugally, and new ones form, so that after a few weeks or months there may be a pretty complete involvement of a considerable portion of the scalp.

In scrofulous subjects, or those prone to suppurative action, the irritation of the fungus may cause the formation of little collections of pus on the substance of the scalp, which, opening on the surface, give a honey-combed appearance to the lesion, to which the older writers assigned the name of *kerion.*

When left to nature, the affection persists indefinitely, apparently as long as the hairs and hair-follicles afford sufficient pabulum for the fungus. The ultimate termination is baldness. The circular patches on the scalp may spread beyond the line of the hair and down upon the adjacent uncovered skin; and in the form of trichophytosis corporis may appear on other parts of the body.

TRICHOPHYTOSIS BARBÆ.

This variety, as may be inferred, is confined to adult males, and appears on the bearded portions of the face and neck. At its first appearance we usually find a small, red, and very slightly raised spot. In a few days this develops into a distinct ring, with elevated margin, gradually increasing in size, and new spots and rings appearing. Accompanying these lesions we may have pustules, tubercles, and sometimes considerable infiltration of the integument—in fact, something not unlike the kerion of children. If shaving be practiced, the irritation is increased. The hairs sometimes break and sometimes fall out, and, if examined microscopically, will be found infiltrated with the fungus.

TRICHOPHYTOSIS CORPORIS.

This is the ordinary ringworm of the body, and is too familiar to need any special description. Appearing at first as a small red spot, it soon assumes the annular form, bounded by a slightly reddened and raised periphery. The center of the patch is apparently healthy, or, at most, slightly reddened. When two neighboring rings extend until they meet, the elevated margins which

are in contact melt away, and we may have a figure-of-eight, or some similar form.

This form of trichophytosis rarely gives rise to much inconvenience by itself, except in tropical countries, when this fungus is found to flourish with a vigor not met with in cooler regions.

FIG. 23.—Trichophytosis.

TRICHOPHYTOSIS GENITO-FEMORALIS.

This is not a very uncommon variety of ringworm, and is almost wholly confined to adult males, though the writer has met with one case in the female. The usual location is at the upper and inner aspect of the thigh and contiguous parts. It generally involves a portion of the scrotum as well as the thigh.

DIAGNOSIS.—The diagnosis of trichophytosis capitis is usually easy, as the broken-off hair-stumps are characteristic. Trichophytosis barbæ, when seen early, and before marked inflammatory action has changed the aspect of the part, ought to be recognized without difficulty, but later in the course of the disease it might be mistaken for eczema barbæ, or so-called non-parasitic sycosis. Ringworm of the body is recognizable under almost any condition that can be imagined,

and trichophytosis genito-femoralis equally so, unless obscured by a coexisting eczema. Under all circumstances, however, the microscope may be relied on to settle the diagnosis.

FIG. 24.—Trichophytosis genito-femoralis.

ETIOLOGY.—Trichophytosis is due, as already stated, to a vegetable parasite, and is propagated from one to another by contact. Ringworm of the head is usually contracted by the careless habit among children of wearing each other's head-gear, and in public institutions by the common use of brushes and combs, towels, etc. In nursing infants the trouble is sometimes conveyed to the breasts of their mothers.

Ringworm of the beard is perhaps more frequently contracted at barber-shops than elsewhere, from the use of contaminated utensils, and may be passed in turn to the lips or cheeks of young women.

Trichophytosis is met with in the rat, cat, dog, cow, horse, and perhaps in other animals, and may be conveyed by them to man. Cavalrymen, who are accustomed to practice their exercises on bare-back horses, sometimes contract the genito-femoral variety.

TREATMENT.—The cure of trichophytosis capitis is by no means easy. Methods of treatment innumerable have been and are being proposed; but, in the writer's experience, none are simpler or more effective than the treatment originally proposed by Bazin twenty-five or thirty years ago. This

consists in thorough epilation, combined with applications of a solution of bichloride. If the parasite is destroyed, the affection ceases; hence the first object is to secure destruction of the *trichophyton*. The spores, however, are deeply buried in the hair-follicle, and are not easily reached by lethal applications while the hairs are still *in situ*. The first thing to be done, then, is to remove them as thoroughly as possible with the aid of a properly constructed epilation forceps. Of these there are many forms, but we think Berg's is the best.

Attack the affected spot or spots with forceps, extracting every hair-stump possible. Many will break off; but do not leave a single one visible above the surface. Then thoroughly wash with a bichloride lotion, of the strength of one to three grains to the ounce. Apply this daily, unless it produces too much reaction, in which case dilute it, or omit for a few days. At the end of a week, again, with the forceps in hand, repeat the epilation, as many of the broken hairs will have appeared above the surface. Extract as many of them as possible, and continue this treatment as long as necessary, which may perhaps be six weeks or six months, according to the extent of the disease, or the intelligence and care with which the treatment is carried out, remembering that patience and bichloride will succeed in the end.

Ringworm of the beard demands and will respond to the same treatment.

Ringworm of the non-hairy parts is a very readily curable affection. The old domestic treatment of daubing the patch with ordinary writing-ink, or applying to the patch a copper cent that has lain in vinegar, are both effective. It is a little more "scientific," however, to use something that comes from the drug-store; and you may, accordingly, apply sulphur-ointment—any form of mercurial ointment—tincture of iodine, or chrysarobin dissolved in traumaticin. A few applications of either of these will promptly remove the trouble.

Ringworm of the crotch may be treated in a similar manner, without epilation—the author's favorite application being a solution of six or seven grains of chrysarobin in an ounce of traumaticin.

PLATE XXXVI. Trichophytosis Barbæ.

PLATE XXXVI.

CHROMOPHYTOSIS.

Chromophytosis is a parasitic affection characterized by the appearance of yellowish-brown spots on the skin.

The discolored spots are in the beginning small and irregularly scattered over the invaded surface. They are very slightly if at all elevated, and are covered with minute, barely perceptible scales. The affection is usually confined to the trunk and upper extremities, almost never appearing on the lower limbs. Its favorite seat is the chest and back; but it may spread to the neck and down upon the abdomen, and upon the arm between the shoulder and elbow. The macules may be very numerous, and many of them not larger than a pea; or they may coalesce by mutual extension, and form patches of considerable size.

The progress of the affection is slow; and it is not uncommon to meet with cases in which the lesions have existed for several years. It is sometimes met with in the strong and hearty, but most commonly in those who are enfeebled by chronic disease, and is especially frequent in those who are suffering from phthisis or syphilis. It was, in fact, at one time classed as a symptom of phthisis. This was, of course, before the true nature of the disease had been ascertained. It is usually more noticeable in winter than in summer, a fact explainable by the lighter clothing and more frequent ablutions in warm than in cold weather. Itching is sometimes present, but is rarely severe enough to seriously incommode the patient.

Etiology.—Chromophytosis is caused by the development of a minute fungus, called the *microsporon audouini* among the superficial epidermic cells. Being of a parasitic nature, it is presumably contagious; but I must confess never to have met with a case that could be directly traced to this source.

Treatment.—This affection is easily cured, provided proper treatment is instituted and persisted in. The one prominent indication is to destroy the superficial epithelial cells, and bring about their exfoliation, bringing with them the parasite. The list of agents that will accomplish this is a long one; but those found most generally useful are lotions of bichloride, tincture of iodine, sulphur-ointment, and chrysarobin. If seven or eight grains of the latter be

added to an ounce of traumaticin, and painted upon the spots for several days in succession, the epidermis will soon desquamate. For the treatment to be effectual, it is necessary that every spot, no matter how minute, should receive the selected application. This is rarely done the first time, and the case should be inspected weekly by the physician, and the applications made by him so far as practicable. It must not be forgotten that the under-clothes need disinfection or destruction; otherwise the affection is very liable to recur.

PLATE XXXVII. Chromophytosis.
PLATE XXXVIII. Chromophytosis.

PEMPHIGUS.

Under this name a number of widely varying diseases have been described, and one of the older writers mentions upward of a hundred varieties of the affection. At present, however, we confine the name to a single disease, embracing but two varieties — namely, *pemphigus vulgaris* and *pemphigus foliaceus*.

PEMPHIGUS VULGARIS.

This disease is characterized by an eruption of bullæ of varying size, some of which may be as large as a pigeon's egg. They may exist singly or in considerable number, and successive outbreaks may prolong the affection for an indefinite period.

In pemphigus vulgaris the bullæ are well distended with a thin, not very plastic fluid, and usually remain intact for several days. Sometimes the fluid is resorbed, and the uplifted epidermis applies itself to the skin, without, however, becoming permanently attached, but exfoliates as soon as a new stratum corneum has formed beneath it.

More frequently, however, the bulla ruptures and becomes detached, leaving a raw and reddened surface, giving rise to a slight serous discharge. This gradually lessens, however, until a newly-formed, horny layer replaces the old.

PLATE XXXVII.

PLATE XXXVIII.

Solitary bullæ may succeed each other at more or less regular intervals, or there may be crops of smaller bullæ, appearing weeks or months apart.

The disease may persist unchecked for several years, terminating in spontaneous recovery, or quite frequently ending fatally.

PEMPHIGUS FOLIACEUS.

In this form the bullæ, instead of being freely distended and tense, are only partly filled with fluid, and are flaccid, and often attain a considerable size. As a rule, they are accompanied with more or less debility and impairment of the vital forces. Contiguous bullæ may coalesce, thus forming a large, flat, watery tumor, containing a lymphy exudation. The prognosis of pemphigus foliaceus is grave, as the majority of cases go on to a fatal termination.

TREATMENT.—In pemphigus vulgaris great benefit may undoubtedly be derived from the use of arsenic, given to the limit of tolerance and persisted in for a considerable time. By this means the relapses may be prevented and an apparently perfect cure may be brought about. Arsenic, however, sometimes fails, seeming to exert no apparent influence on the progress of the disease.

In pemphigus foliaceus, however, arsenic can not be relied on to check the disease, nor, in fact, can any other drug; and the only indications for treatment are the use of tonic and supporting remedies.

DERMATITIS MULTIFORMIS.

Under this title a number of affections may be provisionally included; affections in which vesicles, pustules, papules, tubercles, and other lesions are met with, accompanied with more or less inflammatory action, and which affections have not individually received any definite or distinctive names.

This group of diseases has been very thoroughly studied by Duhring, who has done more to elucidate their symptoms and obscure their pathology than any other writer. His numerous articles, entitled Dermatitis Herpetiformis, should be consulted by those who may chance to meet with any of

the affections belonging to this somewhat arbitrary group. The older writers, however, briefly alluded to a form of eruption to which they gave the name of *pemphigus pruriginosus.* It was characterized by the appearance of vesicles or bullæ, accompanied with severe pruritus, and, when prolonged, accompanied with hyperpigmentation, as is the case with most pruritic affections of long standing. The affection in no wise resembles either ordinary pemphigus or the foliaceous variety, as the vesicles or bullæ are smaller and more numerous, accompanied with extensive hyperæmia of the surrounding skin. It differs, likewise, from a typical herpes by the absence of the usual grouping of the lesions.

Diagnosis.—The diagnosis of the affections included in this group must be made by exclusion—that is, an inflammatory affection of multiple lesion, which can not be assigned to any other more definite position in cutaneous nosology, may be provisionally classed as above.

Etiology.—The etiology of these several affections is unknown, and the *prognosis* varies. Some of them are trivial, while others are unquestionably grave.

Treatment.—Owing to the variety of etiological factors and multiplicity of symptoms, no definite line of treatment can be indicated in advance.

PLATE XXXIX. Dermatitis multiformis.

ANIDROSIS.

Definition.—A disorder of the function of the sweat-glands, characterized by deficiency or absence of perspiration.

Forms.—It is either idiopathic or symptomatic, general or confined to a location, and derived from ancestors or acquired in life from such predisposition, and may or may not be permanent.

Idiopathic.—This functional disorder of the skin is found apparently alone, unaccompanied by any other disturbance of health, in which case it is known as idiopathic. A typical case is the instance of a person who perspires but

PLATE XXXIX.

little, or apparently not at all, under conditions which would naturally provoke or accelerate the secretion of sweat, were the glands in their normal condition, as when no effect results from moist or dry heat, or diaphoretics. The skin is dry and harsh to the touch, such as seen in cases of ichthyosis or xeroderma.

SYMPTOMATIC.—This is the more common form, and is often found associated with other cutaneous or general diseases or nervous disorders, and accompanied by general debility and impaired nutrition. There is the same dry, rough skin as in the idiopathic form, and the patient feels a tightness of the skin, with an itching sensation. This condition is general, as in diabetes; or local, as in nervous disorders like certain forms of neuralgia and paralysis; and it may be temporary, as in fevers, eczema, and psoriasis; or permanent, as in diabetes and tuberculosis.

ETIOLOGY.—Idiopathic anidrosis may be ascribed to a faulty development of or defect in the sweat-glands from hereditary, congenital, or other causes, as shown in the ichthyotic, xerodermic, and paralytic conditions, the otherwise general good health remaining unaffected. Symptomatic anidrosis, on the other hand, may be ascribed to functional torpor resulting in deficient secretion without structural defects in the sweat-glands, as found in cases of eczema, psoriasis, diabetes, and phthisis.

PROGNOSIS.—In the idiopathic form, this is uncertain and unfavorable; but in the symptomatic form it is to be determined by the nature and duration of the primary disorder.

TREATMENT.—When treatment is admissible in the idiopathic form, benefit is only to be derived by stimulating the functions of the sudoriparous glands, and by the application of suitable emollients to relieve the existing dryness of the skin. In the symptomatic form the exciting cause should be removed, and the treatment directed to the relief of the subjective symptoms present. The activity of the sweat-glands may be restored mainly by diaphoretics. Resort should also be made to friction and to the use of alkaline, Turkish, or other hot baths. These should be followed by emollient treatment, as in the idiopathic form. When diaphoretics are used, jaborandi or its alkaloid pilocarpia, is the most certain and satisfactory, when judiciously employed. An adult dose of the former is one drachm of the fluid extract or half a grain of some salt

of the latter. Free diaphoresis soon takes place, and continues for several hours. Faradic electricity may also be used in certain cases with advantage.

DYSIDROSIS.

Definition.—This name is applied to an acute affection of the sweat-glands and ducts, characterized by vesicular eruptions, usually located and confined upon the palms of the hands, but sometimes upon the soles of the feet; and in either case the sides of the fingers and toes may be also involved. The vesicles at first are small, discrete, and deep; afterward they become confluent and superficial; and, finally, disappear by rupture or absorption.

Symptoms.—The earliest symptoms of this affection, previous to the appearance of the eruption, are a tingling sensation, accompanied by heat and tension of the parts involved. When the eruption first appears, the vesicles are minute, transparent, and discrete, imbedded deeply in the skin, and then they slowly increase and become opaque or whitish in color. The end may come here, and the eruption disappear by absorption, accompanied by slight scaling of the parts affected; but, when the affection continues, the vesicles grow larger and coalesce, forming bullæ; and when its course is run, usually in a few days or weeks, absorption, or rupture and evaporation of the fluid contents take place, and the bullæ disappear, leaving a dry, reddened skin. The reaction of the fluid contained is acid. More or less pruritus is always present.

The eruption is usually symmetrically distributed, and, when both the hands and feet are involved, it first appears on the former. The duration and severity of the attack are increased in persons of impaired health. Such persons, particularly young women, are predisposed to this affection, being in a relaxed and depressed nervous state, manifested in part by a mild, continuous hyperidrosis of the palmar surfaces of the hands.

Diagnosis.—This affection, when mild, somewhat resembles sudamina, but, if severe, might be mistaken for eczema vesiculosum, or scabies.

Itching and burning sensations will distinguish it from sudamina.

In eczema vesiculosum there is increased and severe pruritus, attended with

a hot and reddened surface surrounding the vesicles, which are of a pin-head or less in size; these vesicles rupture early and expose a moist surface, and the drying exudation forms crusts. In dysidrosis this exposed surface is dry, and in the vesicular stage unsurrounded with inflamed skin.

In scabies there is the characteristic burrow, or cuniculus, leading up to the vesicle, and, in a later stage, multiform lesions appear, such as papules, pustules, scratch-marks, etc., which, together with its favorite regions and the reddened surface surrounding the vesicles, make this affection distinct.

Prognosis.—There is always a favorable termination to this affection. Its tendency is self-limiting, and therefore treatment is not essential for its removal, but relapses are likely.

Etiology.—This affection is caused by a disturbance of the functions of the sudoral apparatus, both of secretion and excretion, usually ascribed to disordered innervation; and occurs in persons suffering from nervous depression, weakness, innutrition, and other symptoms of neurasthenia.

Pathology.—The sweat glands and ducts are dilated or extended by the retention of sweat within the ducts of the follicles, accompanied with more or less—usually slight—inflammatory symptoms, as the affection is mild or severe. The retention of the altered secretion results in the formation of vesicles or blebs, and their contents are either absorbed, or macerate and rupture the epidermis, and escape.

Treatment.—The general treatment should be carefully considered, and suitable nutritious diet should be ordered. The principal factor in this affection—debility—when it is the result of innutrition, may be helped by tonics of strychnine, iron, quinine, or cod-liver oil, with hypophosphites; and, where it is the result of nervousness, the cause of such excitement should be removed as far as possible. Mild diuretics and saline laxatives may be indicated. Common salt baths, either general or local, as spinal sponging, afford a gentle stimulant and tonic influence to the general system as well as to the skin. Local treatment is of service in relieving the subjective symptoms present. If the itching or tingling is annoying, or there is a burning sensation in the newly exposed epidermis, bland ointments, combined with an anodyne, will bring relief, or soothing lotions may be applied.

It is essential that treatment should be continued even after the disappearance of the eruption, to insure the removal, as far as possible, of any exciting cause of this affection.

SUDOLORRHŒA.

Under the name of *seborrhœal eczema*, Unna has described (Journal of Cutaneous and Genito-urinary Diseases, December, 1887) a condition of the skin which he attributes to a hypersecretion of the sweat-glands, in which an abnormal amount of fatty matter is met with. As the basis for his opinion he relies on his microscopic examination of the tissues, and states that "this abundance of fat is not situated in the scales alone, as is generally believed, but it penetrates the whole thickness of the corium and epidermis as in no other disease hitherto known. The lymph-channels of the whole skin are injected with fat, and the production of fatty scales is hence not surprising.

"The source of this fat can not be from the sebaceous glands, since they, according to the unanimous results of the investigation of Malassez, Schuchardt, and myself, show no sign of hypertrophy or of augmented activity, but, on the contrary, are choked up by abnormally compact masses of epidermis. That the true source of this abnormal fat is to be sought for in the coiled (sweat) glands I can show by four histological facts: by the identity of the fat which is found on the cutis, the epidermis, and epidermic scales, with the fat of the coiled glands; by the inflammatory changes, hypertrophy, and signs of increased activity in the coiled glands; by the dilatation of the sweat-pores within the thickened masses; and by the constant increase of the normal products of the coiled glands."

The affection under consideration is one that has been well known to every careful observer of cutaneous lesions for many years, and especially to the writer, who has watched its development and decline on his own person on many occasions. It is to Unna, however, that we owe the first detailed and extended account of its clinical features and histological characters; and it is our acceptance of these that leads us to propose the name *sudolorrhœa* in preference to that given it by our German colleague, as we can not bring ourselves to look

PLATE XL.

upon it as in any sense an eczema, whether judged from a clinical or a pathological standpoint.

Sudolorrhœa is characterized by the appearance of one or more slightly reddened, barely elevated, and sharply limited patches, more or less thickly covered with a few greasy scales. These appear occasionally on the scalp; more frequently, however, on the contiguous skin along the hairy border; and still more frequently on the chest in men—rarely in this region in women.

The affection is essentially subacute in its behavior, and chronic in its duration. Vigorous friction will remove the scales and leave a surface not wholly unlike that of a dry eczema which has been submitted to the same treatment, and occasionally will excite a slight oozing of oleaginous matter, quite different, however, from the clear but plastic exudation of eczema. If a little *liquor potassæ* be rubbed on the spot, we will have under the finger a thin, non-adhesive emulsion, and not the sticky layer which follows a like application to a patch of eczema.

Besides the regions mentioned, the affection may appear on the back, and, according to Unna, on the lower extremities. The patches may vary in number and in shape, being round, oval, semilunar, or irregular, as if made up of several circular patches which had united; in fact, it may assume the varieties of form that are familiar to us in connection with psoriasis, for which disease it is not infrequently taken.

Sudolorrhœa, when left unchecked by treatment, often persists, with varied activity, for an indefinite period, even for years; and the writer has met with patients who declared that they had had it as long as they could remember.

Nothing definite is known as to the causes of the affection. It is possibly due to a micro-organism, but this has not as yet been positively shown to be the case.

Treatment.—There is little difficulty in causing a temporary amelioration; and even disappearance, of the lesions. Frictions, with precipitated sulphur, sulphur-ointment, white precipitate, and applications of chrysarobin, will usually be sufficient to restore the skin to a comparatively healthy condition, but within a few weeks after treatment is discontinued we not infrequently see evidences of

relapse. These must be immediately taken in hand, and we can usually count on a complete cure if treatment be followed up with needful persistence.

PLATE XL. Sudolorrhœa.

PLATE XLI. Photomicrograph by the author of a thin section of Eczema Seborroicum, received from Dr. P. G. Unna.

ERYTHEMA.

The term *erythema*, used by itself, is the name of a symptom, not of a disease, and may be applied to any reddened or congested surface not accompanied with elevation, and may be produced by a variety of causes. There are, however, two well-marked affections, *erythema multiforme* and *erythema nodosum*, which are distinct morbid entities, and deserve careful consideration.

ERYTHEMA MULTIFORME.

The eruption of erythema multiforme is a diffused patch of redness over which circumscribed elevations, also red, are scattered. These elevations may be few or plentiful, and may be from an eighth to three quarters of an inch in diameter. The small ones, according to size, may be called papules or tubercles, while the larger ones, which are always flattened, may assume the appearance of an elevated ring, around which a second or a third ring may develop. On the flattened tubercles, of medium size, vesicles are sometimes met with, and hæmorrhagic effusions may also occur within them.

These lesions rarely persist for more than a few days, or at most a week or so, at the end of which time they gradually subside and disappear, leaving after them slight stains, which last a few days longer. After the disappearance of the first eruption, or even while it is still in full bloom, a second crop of lesions may come out, and after these a third, prolonging the trouble in this way for several weeks and even months. Two or more of the lesions mentioned may coexist, and the eruption may appear on any part of the surface, but as a rule it prefers the extremities. Slight febrile action may precede the development of the eruption,

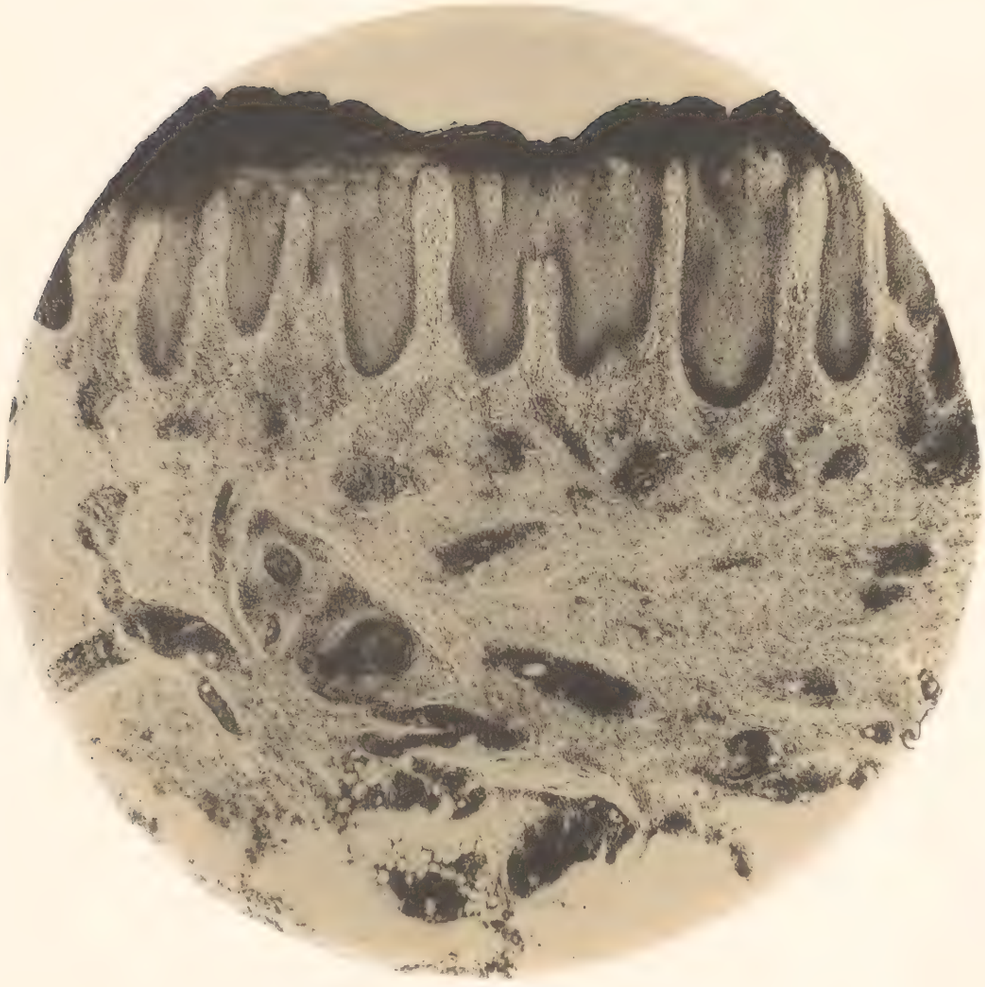

PLATE XLI.

but it soon disappears, and there is rarely any accompaniment other than slight itching. The causes of erythema multiforme are obscure; occasionally it appears due to errors of diet, and sometimes also to uterine disorder. The prognosis is favorable, so far as any trouble may result from the eruption; but when it is prolonged for weeks, as is sometimes the case, it proves very annoying.

TREATMENT.—Unless the cause of the affection be discovered, little need or can be done in the way of treatment, and the affection may be left to run its course, which it will usually do in two or three weeks, and may not return until the following season, for in some persons this disease appears to affect a predilection for the spring and autumn months, returning annually at one or the other of these seasons.

ERYTHEMA NODOSUM.

This is a much more important but also rarer affection than the preceding one. The disease is characterized by the eruption of reddish tumors, from the size of a bean to that of a small egg, and usually situated upon the lower extremities, between the knee and ankle. For a day or two the depth of color increases, then becomes somewhat purplish, and with the "black-and-blue" appearance which accompanies hæmorrhagic effusions, and finally passes into the stage of green and yellow, like an ordinary bruise. A week or ten days may be occupied by these processes; and, as the color changes, diminution of size takes place, and in about two weeks complete resolution is effected. Suppuration very rarely occurs. The number of the nodes is usually limited to three or four, but may reach nine or ten, and may appear on the thighs and upper extremities as well as on the parts already named. The swellings are usually a little painful for the first day or two, but not afterward. Relapses may prolong the disease for several months. Occasionally the eruption is ushered in by febrile action, but not in all cases. It usually occurs in young females, and is not infrequently accompanied by menstrual derangement. In many cases, however, the eruption is preceded by or complicated with arthritic pains. This has led many writers to believe the affection to be more or less closely connected with rheumatism.

The disease is self-limited, requiring no special treatment other than sedative applications to the affected parts.

PLATE XLII. Erythema annulatum.

URTICARIA.

Urticaria is an affection of the skin characterized by the development of white or reddish elevations termed wheals, which are accompanied with more or less pruritus. These wheals may be few and localized, or, more frequently, they exist in considerable number, and are generalized.

Not infrequently a little heat and itching first appear; and, if the part be rubbed or scratched, the wheals become manifest. The elevations may last for a few minutes only or for a few hours, and disappear, leaving no trace behind. Later in the day, or perhaps the next day, a renewal of the eruption occurs, and these may be repeated for a few days or persist for months, constituting a chronic urticaria.

The degree of pruritus varies; it may be hardly more than an agreeable sensation, or may be sufficiently severe to constitute a veritable torture. The scratching will, of course, be commensurate with the itching, and lead to more or less excoriation and even deep wounding of the skin.

The wheals are chiefly met with on the covered portions of the body, and their appearance is favored by warmth, frequently disappearing if the parts be exposed to a draught of cold air. Thus it not infrequently happens that a patient may have a severe attack at home, but, by the time he reaches the physician, all signs of the eruption will have disappeared, or perhaps there will be nothing visible on the skin except a few insignificant scratch-marks. In these cases, if the finger-nail or the point of a pencil be sharply drawn across the skin, it will be followed by a white line, which in a few moments becomes elevated and red, and lasts for a brief period, and then disappears.

Etiology.—In a person predisposed to this affection almost any external irritation may cause an outbreak; and an exactly similar eruption may be pro-

PLATE XLII.

voked in some by contact with certain poisonous plants, as the common nettle (*Urtica*). More frequently, however, the eruption is of internal origin, and is but the reflection of pre-existing irritation of the gastro-intestinal or sexual organs. Certain articles of diet—as crabs, lobsters, various shell-fish, and certain fruits—as well as certain medicinal agents, excite a gastro-intestinal derangement, which is chiefly made manifest through the cutaneous disturbance.

TREATMENT.—In acute cases, especially those in which it is clear that the trouble has arisen from irritant ingesta, the indications for treatment are clear, and should be promptly carried out. A good emetic, or a free purge, will clear out the alimentary canal, and, thus removing the cause of the irritation, bring the affection to a speedy close.

In *chronic* urticaria, however, we have to deal with an affection that is often very intractable; and of the chief difficulties in connection with it is the fact that it is often exceedingly difficult to ascertain the exact etiological factor that is present in a given case. When this can be discovered, it is, of course, of the first importance to remove it, if possible. Many times, however, we will be at a complete loss in this respect, and must trust to experiment to find a successful remedy. In my own experience, free diaphoresis has proved of great service. This may be obtained by means of the Turkish bath, or some similar contrivance; or by the internal administration of a powerful diaphoretic, like jaborandi, given in doses of about one drachm of the fluid extract, or a quarter of a grain of the alkaloid. If these measures prove unavailing, electricity may be employed.

HERPES.

The term *herpes*, used by itself, has little significance, but the expressions *herpes zoster*, *herpes labialis*, *herpes progenitalis*, etc., refer to definite and distinct affections. The first of these we describe under the name of *zoster*, but the other two will be considered here.

HERPES LABIALIS.

Herpes is an affection of the skin, characterized by the development of small clusters of vesicles, usually situated on a slightly reddened or inflamed surface, and in the immediate neighborhood of the mouth.

The vesicles appear unattended with any pain other than a slight burning or itching sensation, and last for a few hours or a day or two. They then rupture and give exit to a slight serous discharge, when they dry up and leave a surface which heals in a short time without scars.

Herpes labialis usually attacks children or women, but is not commonly met with in men. It frequently comes on as a sequel of a cold, or slight febrile attack, and on this account has received the names "cold-sore," "fever-sore," etc.

There may be a single group of vesicles, or there may be several, each group containing four or five vesicles. The eruption may be confined to one side of the face, affecting either the upper or lower lip, or both, or just as frequently it may appear on both sides of the mouth. A true zoster may appear on the face and invade the same regions as herpes labialis, except that the eruption is almost invariably unilateral.

The treatment of herpes labialis involves nothing more than a little absorbent powder, or a sedative lotion—a little camphor-water being a favorite application.

PLATE XLIII. Herpes labialis.

HERPES PROGENITALIS.

The term *herpes progenitalis* includes the herpetic affections of the genital organs of both sexes, and, when occurring in the male, is called *herpes preputialis*, and in the female *herpes vulvaris*.

Herpes preputialis most frequently occurs in young men between the ages of twenty and forty, and is not often met with as a first attack after that age. The vesicles may form on both the cutaneous and mucous surfaces. Owing to the anatomical situation of these parts, and to the friction to which they are more or less subject, the vesicles last for but a few hours only, breaking and giving rise

PLATE XLIII.

to superficial erosions, which from neglect or uncleanliness may run into slight ulceration.

In herpes vulvaris the lesions may be upon the labia majora or the labia minora, or upon the prepuce of the clitoris, running the same temporary course as the other varieties of the affection.

Herpes progenitalis is not usually accompanied with much pain, unless the parts are subjected to undue friction. As in the male, herpes of the female organs is most frequently met with between the ages of twenty and forty. A single attack lasts for a few days only, but with many patients herpes proves to be a relapsing affection, and causing on this account serious inconvenience to those who are subject to it. In men, relapses may occur after almost every act of sexual intercourse, but curiously is much less frequent in married men than in those who indulge promiscuously and at irregular intervals only. In women of the town the affection is by no means uncommon, but is very rarely met with in married women or virgins, except when the attacks coincide with menstrual periods.

The etiology of herpes progenitalis is obscure, and no adequate explanation has yet been given to account for the attacks.

Diagnosis.—The diagnosis of herpes progenitalis presents little difficulty, but care should be taken to distinguish it from mechanical abrasions and from contagious venereal lesions.

The treatment of this affection is simple. As a rule, nothing more is required than a little dressing-powder, or a sedative lotion; and if the parts are left at rest the erosions will be covered with new epithelium in a few days. Should ulcerations have occurred, they may be lightly touched with the solid nitrate, and small pieces of linen may be placed between folds of mucous membrane that are lying in contact. These should be frequently changed, and the parts kept clean with warm water and soap.

When the affection assumes the relapsing form, patients will go from one physician to another, seeking a permanent cure, which we regret to say they will rarely attain until they reach the age at which the trouble tends to disappear spontaneously.

ZOSTER.

Zoster is an acute affection characterized by the development of one or more groups of large-sized vesicles. When there are several of these groups, it will be noticed that they are arranged along the course of one of the larger nerve-trunks whose filaments are distributed to the skin.

The most frequent and perhaps the most typical seat of the eruption is on the chest, where it may form a semi-girdle corresponding to the area supplied by one of the intercostal nerves. Zoster, however, is by no means confined to the thoracic region, but may appear on the abdomen (Fig. 25), the face, in con-

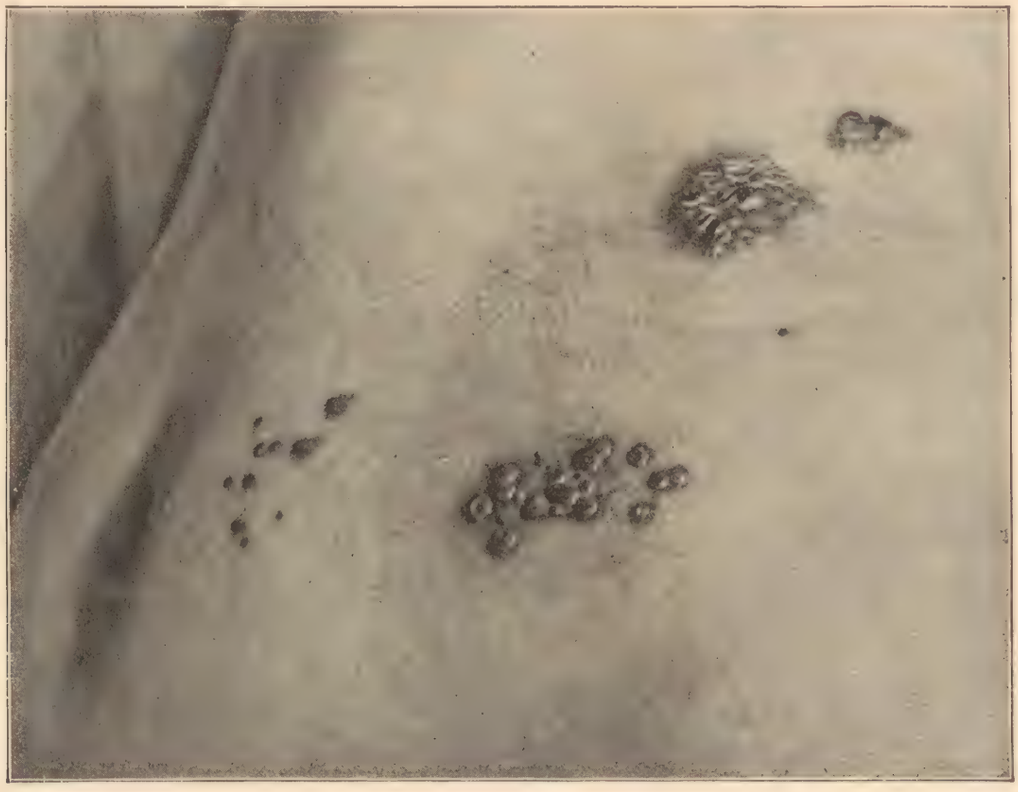

FIG. 25.—Zoster of the Abdomen.

nection with the trigeminal nerve, on the shoulders and arms (Plate XLIV), and on the thighs and legs (Fig. 26).

The eruption may or may not be preceded by prodromal symptoms, which may partake of a mild febrile attack of one or two days' duration, or, instead, of a more or less severe neuralgia, without fever; or neither of these phe-

nomena may be present, the eruption itself being the first indication of the affection.

Each group or patch of vesicles may consist of from four or five to a dozen separate, non-confluent lesions situated upon a reddened, raised, and inflamed base. Occasionally the vesicles themselves may be absent, and nothing is to be seen except the circumscribed reddened patch. The several groups of vesicles constituting the typical eruption do not usually appear at the same time, but the patches may appear in succession, so that several days may elapse before all the lesions have developed.

FIG. 26. – Zoster.

The eruption having appeared, is accompanied with more or less pain of a neuralgic character, together with some soreness of parts if the vesicles rupture. As a rule, the lesions remain intact until after a week or so, when the fluid contents become absorbed, and the uplifted epidermis desquamates, leaving a reddened macule, or in some cases a small cicatrix, to mark the site of the lesion.

A striking peculiarity of zoster is the fact that it is strictly unilateral (with exceedingly rare exceptions). Cases of double zoster, in which both sides of the body have been involved at the same time, have been reported; but the writer,

with an experience of over twenty-five years, has never met with an example. Another feature of this affection is the extreme rarity of a second attack, resembling in this respect the eruptive fevers.

The neuralgia which precedes or accompanies zoster may exhibit any degree of severity, and may indeed persist for an indefinite period after all symptoms of cutaneous irritation have disappeared. Instead of neuralgia, a more or less intense pruritus may be present, confined to the affected region, and persist for a long time.

As a rule, zoster is an affection of little gravity—that is, in persons who when attacked are in ordinary health. In those, however, who are aged or feeble, the prognosis is not always so favorable, as the vesicles may be followed by more or less severe ulceration. When the eruption appears on the head, and especially in connection with the branches of the trigeminus that are distributed to the eye, ulceration of the cornea, and even destruction of the sight, may ensue.

Etiology.—It has been very clearly demonstrated that the majority, if not all cases, of zoster appear in connection with irritation or inflammation of the ganglia attached to the roots of the sensitive nerves; but what sets up this primary irritation is not always clear. Zoster has been known to appear after exposure to cold, in connection with pleurisy, after traumatisms, and after the internal administration of arsenic. Quite recently, bacilli are said to have been found in the inflamed ganglia, but how they got there does not appear very clearly.

Treatment.—The chief indications are to preserve the integrity of the vesicles until their contents are absorbed, and to give relief to the neuralgic pain. We may attempt to carry out the first by the application of several coats of flexible collodion, or *traumaticin*, or we may brush the lesions over with oil, and then cover them freely with some indifferent dusting-powder.

The neuralgia is to be treated exactly in the same way as if it were not accompanied with the vesicular lesions—anodynes, if necessary, or counter-irritation over the ganglia. I have in several instances noted decided relief follow a superficial application of the actual cautery, near the spine; or, if in a persistent neuralgia, along the course of the nerve.

PLATE XLIV. Zoster.

PLATE XLIV.

IMPETIGO CONTAGIOSA.

This disease, best known through the writings of the late Dr. Tilbury Fox, is characterized by the appearance of mild pyrexial symptoms, followed in two or three days by the appearance of one or more small vesicles. They slowly enlarge, but soon dry into thin, light-yellow crusts, or scabs. These lesions may be few or numerous, and successive outbreaks may prolong the affection for several months. The affection is unquestionably contagious, and, when it once appears upon an individual, other members of the family, either children or adults, may contract it. In not a few instances the eruption has appeared within a couple of weeks or so after vaccination. If the crust, which has the appearance of being "stuck on," is removed, a slightly reddened but not eroded surface is revealed, from which but little or no moisture is exuded.

FIG. 27.—Impetigo Contagiosa.

ETIOLOGY.—The cause of the eruption is obscure. There is no question, in the writer's mind, as to its contagious nature, and that it is in some manner connected with vaccination. In 1872 he endeavored to investigate this connection, and the result of his labors was the discovery of certain peculiarly shaped bodies in the crusts of impetigo and of vaccination; the crusts themselves having been prepared for microscopical examination by dissolution in a caustic alkali. The appearances noted have been

described in the New York Medical Journal for that year. These forms were supposed to be vegetable organisms. Since then it is claimed that similar organisms are to be found in the scales of psoriasis; while a more recent observer asserts that they are wholly factitious, being the product of the action of the caustic alkali on the epithelial tissues, and that they are not in any sense of a fungoid nature.

TREATMENT.—The application of a sulphur or any mercurial ointment will in the majority of cases effect a speedy cure of the affection.

FURUNCLE.

A furuncle, or common boil, needs little in the way of description, the features being so familiar to all. Pathologically considered, it may be described as an acute and painful localized inflammation, differing, however, from a simple abscess by the fact that in the furuncle we find a central core of necrosed cutaneous and connective tissue, around which the inflammation is developed. Modern investigation leads us to the supposition that a micro-organism, having gained an entrance into one of the follicular openings, sets up changes which result in the death of the tissue in the immediate vicinity. This necrosed tissue acts as a foreign body and excites inflammation, as would a thorn, and after a few days the hard, painful, red tubercle exhibits a drop of pus at its summit, which gradually increases until the entire lesion softens, and finally breaks, with exit of pus, together with the core referred to.

The pus which is discharged from a furuncle appears to be capable of exciting new lesions of a similar nature, and crops of boils may follow each other in an extremely persistent and disagreeable manner.

TREATMENT.—If a furuncle comes under treatment at the beginning, there is little doubt but that it can be aborted; and the best way to do this is to insert the sharp point of a Paquelin cautery, or a lance-shaped galvano-cautery. If neither be at hand, a pointed stick of nitrate of silver should be thoroughly bored in. This is undoubtedly painful at the moment, but it saves pain later on, and may be the means of preventing the formation of new boils. Furuncles should never be

opened with a knife until they are "ripe"—that is, until the accumulation of pus has been sufficient to loosen the central core. When opened, however, the pus should be evacuated as thoroughly as possible, and the central core removed. The parts should then be thoroughly cleansed with mercurial solution, and an antiseptic dressing applied.

The sulphide of calcium given internally, in doses of one quarter to one half a grain, hastens the maturation of the lesions.

MOLLUSCUM.

Under this title we describe an affection known also by the names *molluscum contagiosum* and *molluscum epitheliale.*

It is characterized by the development of small, umbilicated papules, or tubercles, from the size of a small bird-shot to that of a pea, and sometimes even larger. The natural color of the skin is usually preserved, and the tubercles are not accompanied with inflammatory action. If they are squeezed between the fingers, a cheesy or sebaceous-looking matter issues from the hilum. This led to the opinion that the affection was located in the sebaceous glands; a view further supported by the microscopical appearances observed in thin sections of the tubercles. The thin sections, when examined with an objective of low power, were a wonderfully close counterfeit of a racemose sebaceous gland, with its contents in various stages of degeneration. It is now known that these appearances are fallacious, and that the little growth takes its origin not in the sebaceous glands, but in the rete Malpighii.

These molluscous growths are met with on the face, neck, chest, limbs, and genitals, and may be few or numerous, coming out one after the other for several weeks or months.

After they have attained a certain size they may persist for an indefinite period, often at the end shriveling up and leaving a little tab of loose skin.

This affection is most frequently developed in young females, but is occasionally met with in males and in persons more advanced in years.

Etiology.—The etiology of molluscum is obscure, but the weight of evi-

dence appears to be in favor of contagion. In what the contagious element, however, consists is unknown to us. (See article on *Psorospermosis.*)

Diagnosis.—The diagnosis of molluscum is easy, as we have simply to recognize a non-inflammatory, umbilicated tubercle, with cheesy contents.

Treatment.—The quickest way to get rid of the molluscous tubercles is to snip them off with scissors; and, after pressing out the remaining contents, to introduce the point of a pencil of nitrate of silver.

MAMMILLITIS MALIGNA.

Under this designation we embrace the peculiar and rare disease of the nipple and areola, first described about fifteen years ago by Mr. Paget, and commonly known as "Paget's disease of the nipple."

Sir James Paget states that he had seen some fifteen cases of the disease, all occurring in women between the ages of forty and sixty. The affection *commences* as a red, almost raw inflammatory condition, confined to the mammilla and surrounding areola; the surface being somewhat granular, and looking not unlike an ordinary eczema rubrum from which the epithelium had exfoliated, and accompanied with a very similar exudation, with some tingling, burning, and itching. In other words, it presented the ordinary appearances of a common eczema, except that, when taken between the fingers, there was a firmness of the tissues, approaching the condition of induration, that is never met with in eczema proper.

The chief peculiarities of this disease, however, are the facts that, first, it is exceedingly rebellious to treatment, obstinately refusing to heal under the simple measures that would suffice in ordinary eczema; and, second, that the disease in question proves to be a forerunner of carcinoma.

It is on this fact that the real importance of the disease depends, as in the beginning it gives rise to very little local or other inconvenience.

Etiology.—The affection is believed by some to depend on the presence of an animal parasite. (See article on *Psorospermosis.*)

Treatment.—If the diagnosis is firmly established, extirpation, either by the knife or caustic, is the only means of treatment that should be thought of, as

PLATE XLV.

soothing remedies do not check its progress, while those of a stimulating nature simply aggravate the lesion and hasten the *dénoûment.*

PLATE XLV. Mammillitis maligna.

PURPURA.

Purpura is an affection of the skin characterized by the sudden appearance of reddish macules of varying size and on various parts of the body. In a short time they become purplish, the color not being removable by pressure. After they have existed a few days they undergo changes in color similar to those which follow a bruise.

The eruption may appear in either sex, at any age, and in almost any condition of general health; in those who are greatly enfeebled as well as in those in an apparently robust condition.

The eruption may cover the greater part of the surface, but more frequently is confined to the lower extremities.

A single purpuric outbreak may be the beginning and end of the trouble, or, as frequently happens, fresh crops may appear at regular or irregular intervals for a considerable period. The affection has been noticed in connection with suppressed menstruation, apparently taking the place of the natural flow. The foregoing features characterize *purpura simplex*, which, as a rule, is not a serious affection.

Sometimes, however, the hæmorrhages are not confined to the cutaneous tissues, but may take place internally as well, and serious loss of blood may result from the rupture of superficial capillaries in the various mucous membranes, and especially those of the gastro-intestinal tract. This form is termed *purpura hæmorrhagica.*

Etiology.—The etiology of purpura is absolutely unknown. It has no connection, however, with the congenital anomaly known as hemophilia, nor with the acquired condition, now happily rare, known as scorbutus, or scurvy.

Diagnosis.—The name should be confined to the simple affection we have

described, and should not be used in connection with any other distinct disease that happens to be complicated with minute hæmorrhagic effusions. Thus the expressions *purpura variolosa*, *purpura urticata*, etc., are unscientific and confusing, as the real diseases in question are variola, or urticaria, and the purpuric condition a complication and usually a very serious one, as in these cases it generally implies a serious disorganization of the circulating fluid.

Scurvy should never be mistaken for purpura, or *vice versa*. In the former disease the limbs are swollen and tense, and the hæmorrhages form diffuse patches rather than macules. The gums also are swollen, and ready to bleed at the slightest provocation. Purpuric blotches are likewise met with in peliosis rheumatica; but the pronounced arthritic symptoms serve as a mark of distinction.

TREATMENT.—In addition to attention to any obvious perversions of the general health, we may use one drug that stands pre-eminent and alone as an efficient agent in the treatment of purpura. This is ergot. It may be administered hypodermically as a solution of the extract (the so-called ergotine) or the officinal fluid-extract may be given in doses of one drachm two or three times a day. As a rule, iron, quinine, and similar drugs of the tonic class should not be given, except that iron may be used in solution as an astringent for local application in the hæmorrhagic form.

PRURIGO.

The older writers used this term in a variety of ways, and included under it several unrelated affections which possessed the common symptoms of itching. Modern usage, however, confines it to a definite affection, first clearly described and sharply defined by Hebra.

The disease is chiefly characterized by intense itching, often commencing early in life, and extending over a number of years. In the beginning little will be found in the way of lesion other than a few scattered papules, which are little if at all raised above the surface of the skin, and are perceived more readily by the sense of touch than by that of sight. They appear to be seated in the skin,

and do not, except when directly irritated, project above it. Accompanying the papules we find the usual indications of all itching affections, namely, "scratch-marks," and these will be developed in direct ratio with the severity of the pruritus and the vulnerability of the skin. In addition to these we will find increased pigmentation, increased distinctness of the natural lines and furrows, and increased roughness, hardness, and thickness of the skin. The extensor surfaces of the limbs are the chief seats of the trouble. These phenomena may be embraced under the title of prurigo *mitis*, or *vulgaris*, but in exceptional cases, however, all the symptoms may be greatly aggravated, constituting the prurigo *ferox* of Hebra. The papules are larger, the excoriations more severe, and the papules may be torn open, giving exit to a little sero-purulent fluid; and a localized or general eruption may complicate, and to a certain extent mask, the primary affection. The whole surface becomes deeply pigmented, and the axillary and inguinal glands become enlarged.

Prurigo, whether in a mild or severe form, is a chronic disease, occurring even in childhood, and lasting for life, which, however, it does not appear to shorten.

The *etiology* of prurigo is unknown, and the same may be said concerning its *pathology*.

The revelations of the microscope, as interpreted by different observers, throw about as much light on the subject as they do on many other cutaneous affections. Thus, Hebra and Simon regard the prurigo "papule" as a species of vesicle; Kaposi, as being structurally identical with the papule of eczema; Riehl considers it closely analogous to the lesion of urticaria; Vidal, to that of lichen: Wedl and Neuman, as an exudation into the cutis; Derby and Gay believe that it is closely related to the hair-follicles; Auspitz and Caspary, that it is a proliferation of the rete Malpighii; and, lastly, Leloir and Tavernier claim that the "papule" is due to the development of a cavity in the prickle layer of the epidermis, the boundary cells of which become condensed and horny, and confine a small quantity of fluid. These writers suggest the possibility of a connection with the sudatory apparatus.

DIAGNOSIS.—The diagnosis of prurigo is not to be definitely made at the very beginning of the disease, but may be suspected in childhood when there is

no other obvious cause for the pruritus. When, however, it has lasted for some years, this very fact is presumptive evidence; and the discovery of the peculiar papules, in connection with the scratch-marks and their location, should in the absence of complications enable the diagnosis to be made.

Prognosis.—The *prognosis* is undeniably bad; Hebra, indeed, saying that the disease is incurable, but this is probably not the case when judicious treatment is instituted early in the course of the affection.

Treatment.—The writer has not met with and recognized more than half a dozen cases of prurigo, and these all occurred in dispensary and public practice, the disease being an exceedingly rare one in America, and comparatively more rare in the well-to-do than in the less fortunate classes. Under these circumstances, he can not offer any suggestions as to treatment that are founded on personal experience. In Germany, however, where the disease is much more frequently met with, little is done beyond attempts at amelioration, as it may be considered as definitely settled that there are no drugs known that can be depended on to cause an entire and permanent disappearance of the lesions and symptoms. Relief, however, may be obtained by means of prolonged baths and energetic frictions, with alkaline and tarry preparations, such as the *tinctura saponis viridis*, to which a liberal amount of tar has been added. Peppermint-oil, or its active constituent, acts as a temporary sedative. As the violence of the disease is most fully displayed at night, the applications should be made at bed-time, except in cases of such severity that the patient is obliged to abandon business or social life, and give himself up entirely to the treatment of his disease. There appears to be no doubt that very decided relief can be obtained by the means just mentioned; but, unfortunately, relapse may be expected at a short interval after their discontinuance.

PLATE XLVI.

LICHEN PLANUS.

Lichen planus is a non-contagious affection of the skin, characterized by the development of small, flattened papules, which frequently present a distinct central depression or umbilicus.

As Erasmus Wilson was the first, about twenty years ago, to clearly differentiate this affection, and as his description has not been improved on since, we will quote largely from it. He says:

"Lichen planus is an eruption of pimples, remarkable for their color, their figure, their structure, their habits of isolated and aggregated development, their habitat, their local and chronic character, and for the melasmic stains which they leave behind them when they disappear.

"The *color* of the pimples is a dull crimson-red, more or less livid, and suffused with a purplish or lilac tinge.

"In *figure* the papulæ are flattened, smooth, and depressed on the summit, angular in outline, but slightly elevated, and of a size ranging between one and three lines in diameter; . . . the flatness is rendered more conspicuous by the summit of the papule being occupied by a thin, horny, semi-transparent lamina of cuticle, depressed on the surface, and marked by the aperture of a follicle, which represents a sort of *hilum*.

"In structure, the papule of lichen planus is a hyperæmia with exudation, surrounding a follicle and surrounding a thin layer of horny, transparent cuticle; while the aperture of the follicle and its conical epidermic plug are visible in the center of the horny plate. The horny covering is in no wise a scale; it rises and falls with the papule and neither separates nor exfoliates. . . .

"Lichen planus presents two principal forms of manifestation—*discrete* and *aggregate*. . . .

"The *habitat* of the eruption is also characteristic of the identity of lichen planus. It is pretty constantly met with on the front of the forearm, just above the wrist; in the hollow of the loins; on the lower half of the abdomen; on the hips; around the knees, particularly over the mass of the vastus internus muscle; on the forearms and calves of the legs, and in women around the waist and in the grooves occasioned by the garters. We have seen it also,

but less frequently, on the palms of the hands and soles of the feet; and in two instances on the tongue, the buccal membrane, and the mucous lining of the fauces.

"Lichen planus is essentially *chronic* and *local* in its habits. . . . In distribution it is generally symmetrical, but occasionally is limited to one side of the body; sometimes occurring on one side in the upper extremity, and on the other in the lower. It has no constitutional symptoms of its own, and frequently prevails with very little disturbance of any kind."

The foregoing description by Wilson was based on the observation of about fifty cases; but it will readily be understood that the totality of the characters above noted are not to be found in every case. The characteristic features, however, are the flattened umbilical papules. This central depression may not be noted in every papule; and when a number of them have run together and coalesced, it is commonly absent, and met with only on those in the neighborhood of, but which do not form a part of, the patch.

The duration of the affection is indefinite. It may undergo resolution, and the papules disappear after three or four months; or, especially when the eruption is extensive, may resist the best-directed treatment for a year or more.

Etiology.—No one has thus far offered a plausible explanation of the causes of lichen planus. It is undoubtedly a constitutional affection, but whether due to certain unknown changes in the blood, or to a reflected irritation from some special internal organ, is entirely unknown.

Diagnosis.—In general aspect the affection may be mistaken for a papular syphilide, or a papular eczema, but hardly for any other than those two diseases, except it be the lichen ruber of Hebra. Thc positive features, however, that have been detailed above do not occur in the diseases mentioned, and are sufficient of themselves to establish the diagnosis.

Prognosis.—The prognosis of lichen planus is favorable, as there is little or no evidence that it tends either directly or indirectly to shorten life. The duration of a given eruption, however, is very uncertain, except that, in a general way, the more extensive the lesions, the longer they may be expected to remain.

PLATE XLVII.

TREATMENT.—It can not be said that we have any very certain or definite method of treatment; but the writer's experience leads him to place considerable reliance on the internal use of arsenic. Externally, chrysarobin used as in psoriasis certainly hastens the resolution of the papules. The disease is by no means uncommon in this country, and we ought by this time to know more about its nature and treatment than we do.

PLATE XLVI. Lichen Planus.
PLATE XLVII. Lichen Planus.

LICHEN RUBER.

To Hebra is due the description of an eruption to which he applied the name above given. It, like lichen planus, is a papular affection, but the papules present a different aspect, and they are *acuminate*, not *flattened*. They do not exhibit the central hilum. The papules rarely if ever undergo spontaneous resolution, but persist throughout the entire period of the disease, which, as a rule, terminates with the patient's death. The papules at first are discrete, and each is decked with a minute adhering scale. New papules continue to form, and in time considerable patches, raised, red, and scaly, come into existence.

Such, at least, is the description of the disease as given in the earlier edition of Hebra's book on Skin Diseases. In a later edition, and subsequent to the publication of Wilson's description of lichen planus, Hebra absorbs this latter disease bodily as a part and parcel of his lichen ruber. Later studies, however, by several independent observers lead us with little hesitation to believe that the two diseases are entirely distinct.

PROGNOSIS.—The prognosis of true lichen ruber of Hebra is essentially grave. A few cases have been reported cured, but in the majority the disease lasted until death terminated the patient's existence.

TREATMENT.—In this disease we are entirely without any reliable means of treatment. Ignorant of its intimate nature, a rational internal treatment is

impossible. Neither mercury nor arsenic appear to have any definite influence on its course.

Externally we may seek with some measure of success to procure resolution of the lesions by active substitutive treatment, involving the use of iodine, bichloride of mercury, carbolic acid, strong alkaline applications, etc.; but, whether either or all of them is capable of retarding the usual termination, is problematical.

PITYRIASIS RUBRA.

Under this title two distinct types of disease have been described—the one by Devergie and the other by Hebra. They both possess certain marked features which would entitle them to the designations they have received; but, as there are also marked differences in their course and prognosis, they must and should receive separate consideration.

PITYRIASIS RUBRA (DEVERGIE).

This affection is chiefly met with in persons between the ages of forty and fifty, and commences by the appearance of well-marked redness, with a sharply limited margin on the anterior aspect of the trunk and limbs. As it advances new surfaces are invaded, the skin slightly thickens, and the increase may be so rapid that the entire skin may become involved in from two to four weeks. Accompanying this diffuse redness we find free desquamation or exfoliation of medium-sized epidermic scales, with more or less watery exudation, resembling sweat rather than the lymphy and plastic exudation of eczema. There is also an intense burning heat of the surface, so that the patient suffers from the warmth of his clothing and of the bed-coverings at night.

The acute symptoms mentioned are tenacious, and the affection may persist in this condition for months, but in perhaps the majority of cases they gradually subside, and recovery takes place.

On the other hand, the acute phase of the disease may be followed by one that is subacute but more persistent, and continue to harass the patient for years,

gradually breaking down his health and terminating fatally, through the supervention of chronic diarrhœa or the development of pemphigus.

The prognosis of pityriasis rubra (Devergie) is in the main favorable, except when it occurs in aged or debilitated subjects, or assumes the distinctly chronic form.

PITYRIASIS RUBRA (HEBRA).

Under this name Hebra has described a disease that is wholly different from the foregoing, and the principal characters of which are as follows:

The skin presents a persistent deep-red coloration, distributed over the entire surface, but without papules, vesicles, or any exudation. Scales are found in small numbers, but do not become a prominent feature of the affection.

The local subjective symptoms are insignificant.

The progress of the disease is remarkably slow, and in its early periods the general health is not notably affected; but little by little there is a gradual weakening of the vital forces, and fatal marasmus marks the termination of the patient's sufferings.

It will be seen from the foregoing that the affections described under the same name by the eminent French and German authors differ from each other in every important respect, and are, in fact, quite distinct diseases.

The writer has met with a number of cases of Devergie's disease, but remembers but a single undoubted example of the exceedingly rare malady described by Hebra.

TREATMENT.—If, as asserted by Hebra, pityriasis rubra is always and necessarily fatal, treatment other than palliative is out of the question.

In Devergie's affection, however, every effort should be made to cut short its progress, and benefit may be expected from baths, emollients, and diaphoretics. I have seen complete recovery follow the employment of the wet pack and the moderate use of jaborandi.

PITYRIASIS PILARIS.

Devergie, who was the first to describe this rare dermatosis, states that in its most benign form it consists of a more or less localized eruption on the external aspects of the members, and especially the forearms and legs. The essential seat of the eruption is at the pilous orifices of the general surface, but not on the scalp. The only lesion is a minute papule, with a small adhering scale.

In more severe cases it may become generalized, with slight thickening of the skin about the follicle, forming a small, red pyramidal papule decked with a white scale. The skin between the papules is apparently unchanged.

There is little or no pruritus, and it apparently causes but trifling inconvenience to the patient, except as it progresses from bad to worse.

It is exceedingly obstinate, and palliative and emollient treatment is our only resource.

When associated, as it may be, with pityriasis rubra (Devergie), it presents a striking likeness to lichen ruber (Hebra), and may possibly be in reality the same affection.

ICHTHYOSIS.

Definition.—Ichthyosis is a chronic disease of the skin, in which the epidermis is developed in excessive accumulations, usually accompanied by more or less hypertrophy of the papillæ, presenting a dry, harsh, and "scaly" surface, whence its name, and arising from a congenital or hereditary predisposition in the patient.

Forms.—This disease or hereditary affection is usually divided into two forms, according to the degree of development.

The mild form, called simplex, is more frequently found, and varies from a very mild xerodermatous to a decidedly scaly condition of the skin.

The severe form, called hystrix, shows its most advanced stage, with the papillæ enlarged and the cones between extended and capped with horny excrescences of various sizes and shapes.

SYMPTOMS.—While the characteristics of this disease are marked, particularly the objective symptoms, the subjective symptoms are almost entirely lacking.

ICHTHYOSIS SIMPLEX.

In this, the mild form, the skin of a new-born infant is free from any apparent symptoms. It is usually not until after the lapse of a few weeks or months, and sometimes years, that the disease is sufficiently advanced to attract attention, when there is first noticed a dry, rough condition of the skin; its color, however, remains unaffected. The skin may be generally involved, or the affection may be confined to certain localities, such as the extensor surfaces of the limbs, and afterward extend over the whole surface of the body. By gradual development, the epidermis becomes slightly thickened, and the natural lines of the skin begin to deepen, and those become apparent, which ordinarily can not be seen. In its further development the epidermic scales become larger and more abundant; and in one case under my observation they were excessively produced and lined the stockings, and, when shaken out, were called "snow" by the children in the family. The scales enlarge in area and thickness, their outline being limited and conforming to the natural lines and furrows of the skin, and form plates of various shapes; those on the extensor surfaces of the extremities are the largest and resemble the scales of a fish. The well-developed scales are detached about their edges, but are quite firmly attached in their centers, and can be removed with little difficulty without abrading the surface of the papillæ beneath, and blood following, as is the case in psoriasis. When the scales are thin and the skin kept clean, they present a white or pearly appearance. When more developed and thickened, this color is deepened, shading from yellowish to darkish-green or even brown or blackish. This is due partly to pigmentary deposits in the plates, but mainly to accumulations and incorporations of extraneous matter, not removable by washing. Fissures or cracks are formed on the surface where it is thickest and most unyielding; but they extend only through the upper layer of skin, and remain dry, thus differing from those found in eczema, which extend deeper, giving exit to a serous discharge, which dries into crusts. The anidrotic or dryish state of the skin, so markedly shown here, is probably due

to a sparse and defective development of the sweat glands and follicles and to their functional inactivity in the parts affected; the unaffected parts remaining in the normal state.

ICHTHYOSIS HYSTRIX.

This form is the more severe and rare manifestation of the disease, and presents a variety of developments. It is characterized by the excessive growth and accumulation of epidermis in the form of thick, irregularly shaped, variously colored, horny masses, which admit of being detached, exposing a dry and rough surface; or by more marked hypertrophied papillary growths which are surmounted by variously sized and shaped horny projections.

In some instances they take the semblance of the quills of the porcupine; hence the name, *hystrix*. Its distribution may extend irregularly over various parts of the body, or may be localized in one or more well-defined patches, as, for instance, about the axillary folds, the knees, elbows, neck, or other regions. This form is also of gradual growth, is the most advanced, and its degree of development increases with age.

The eruption is particularly severe and annoying in winter, and sometimes diminishes in summer, recurring again the succeeding winter.

Course.—The disease is progressive as age increases, until the climax is reached, usually at adult age, whereafter there is little change. A spontaneous cure has rarely, if ever, occurred. The two varieties of the disease may occur together.

Diagnosis.—Ichthyosis, in its advanced stage, is so distinctly characterized as to render its diagnosis easy and certain. In its mild form it is to be differentiated from xeroderma, meaning *dry skin*, which properly refers to a condition not ichthyotic in origin; from eczema, by the absence of pruritus; and from all other inflammatory disorders which tend to desquamation, by the absence of previous inflammation.

Prognosis.—The simplex form may often be ameliorated; but the hystrix form is rarely, if ever, more than temporarily improved. The general health is apparently unimpaired in either case; and there are instances where the mild form has decreased in development with increasing years; but it is a question if the disease once developed ever disappears or is cured radically.

PLATE XLVIII.

PATHOLOGY.—The conditions vary according to the severity of the disease and the degree of development. The epidermic cells are accumulated enormously, and a section will reveal many superimposed lamellæ. The papillæ and blood-vessels are enlarged, and there may be congenital absence or structural defect in the sweat glands and follicles.

ETIOLOGY.—Ichthyosis is an hereditary affection, and usually transmitted in the line of sex, but there are many exceptions to this rule, and numerous instances of the crossing of the sex. It is common to find several instances in the same family.

TREATMENT.—This disease is seldom, if ever, radically cured, but the condition of the patient can be considerably bettered. The general health is apparently unaffected. The treatment should be directed to the relief of the symptoms present. The anidrotic condition of the skin may be improved by the employment of such agents as will increase the sweat-secretion. For this purpose, jaborandi, in the form of fluid extract, taken daily in drachm-doses, has in some instances had a prompt effect, and at the same time the epidermic scales were loosened. The wet-pack has also been advantageously employed, or frequent washing and alkaline or other bath may be substituted with success for this purpose. After the removal of the epidermic accumulations, the newly exposed epidermis should be kept as soft and pliable as possible, by inunctions of some bland oil, to prevent a return to its former condition. Such treatment will afford relief, more or less permanent.

PLATE XLVIII. Ichthyosis.

XANTHOMA.

Xanthoma is characterized by the development, on and in the neighborhood of the eyelids, of one or more yellowish, flat, or raised macules or papules. There may be but one or two, or they may exist to the number of a dozen or more, and often display a marked symmetrical arrangement. Xanthomatous patches, however, have been met with on other parts of the body, and even to a certain extent become generalized.

When located in the vicinity of the eyes, it is most frequently met with, and, so far as the writer's experience goes, confined to women verging on or past middle life. In xanthoma of other parts, it appears as frequently in men as in women.

Etiology.—In the vast majority of cases of xanthoma, antecedent hepatic disorder has been met with, but the exact connection between the two is unknown.

Diagnosis.—As there is no other affection of the skin that in the least degree resembles xanthoma, when appearing about the eyes, no difficulty should be experienced in the diagnosis of these cases. In the generalized form, however, this is not always so easy.

Treatment.—Internal treatment has little or no influence on the progress of the disease, and is utterly inefficient as regards its removal. In the majority of instances nothing should be attempted; but, when insisted on by the patient, excision of the patches or electrolysis may be resorted to.

Fig. 28.—Alopecia areata.

ALOPECIA AREATA.

Alopecia areata is an affection characterized by circumscribed patches of baldness on the scalp or other hairy parts of the body.

It usually commences with a single spot, rarely noticed until it has attained a diameter of perhaps the third of an inch. This spot

gradually increases in size, and others make their appearance to the number, in some instances, of a dozen or more. As the several spots increase in size, they encroach on each other until they finally coalesce and form patches of considerable size, and if unchecked may denude the entire scalp.

FIG. 29.—Alopecia areata.

The spots themselves are absolutely deprived of hair, the short stubble met with in trichophytosis being absent. As a rule, the normal hue of the skin is preserved, but occasionally we meet with cases in which a slight congestion is apparent. Sometimes the reverse is the case, and the affected portions appear to have a lessened blood-supply.

Although most frequently met with on the scalp, and usually confined to this region, the disease may invade the beard and eyebrows, axillary and pubic hairs, and, in fact, cases have been observed in which apparently every hair in the body has fallen.

The course and progress of the affection vary. In some cases they proceed by gradual steps to entire denudation of the scalp, while in others spontaneous recovery and regrowth of the hair may be observed. The new hair that comes in, either spontaneously or as the result of treatment, is usually fine and silky, and very much lighter in color than the surrounding healthy hair, and may even be entirely colorless. This early growth is not very viable, and the hairs are gradu-

ally supplanted by others stronger and more normal in appearance, until finally the formerly bald patch is to be in no way distinguishable from the surrounding hair.

Diagnosis.—There is, or should be, no difficulty in diagnosis, as there is no other affection that presents the features of circumscribed and progressive patches of baldness.

Prognosis.—When cases are met with in the earlier stages, and are subjected to judicious treatment, the prognosis is almost invariably good. In cases in which it has progressed further, the prognosis is less favorable, although the increase of the area of baldness can generally be stopped, even if the hair can not be brought back to the already affected portions. Cases, however, in which total baldness has already occurred may usually be regarded as hopeless.

Fig. 30.—Alopecia areata.

Etiology.—The nature and causes of alopecia areata are unknown. On the one side, there are those who maintain that it is a purely trophoneural affection; and, on the other, those who are equally satisfied that it is of microbian origin. The specific microbe, however, has not been determined with any certainty, and the chief support of the parasitic theory lies in the fact that the disease frequently appears in certain series of cases as if it were spread by contagion. Many years ago the writer suggested that there might be two en-

PLATE XLIX.

tirely different diseases included under the same name—one of them nervous in origin and the other parasitic. This view seems to be gaining ground at present; but, unfortunately, no one has yet pointed out the means by which these two diseases, if they really exist, can be distinguished from each other.

TREATMENT.—The treatment of alopecia areata is simple, and may be embraced by a single word—stimulation. It matters little by what means this may be effected, whether by cantharides, capsicum, ammonia, corrosive sublimate, or electricity. As a useful precaution, however, anti-parasitic applications should be made to the entire scalp; and general treatment should be such as circumstances may indicate.

PLATE XLIX. Alopecia areata.

PSOROSPERMOSIS.

Psorospermosis may be defined as a condition of the skin of varied lesion, but characterized by the presence of "psorosperms." During the past two years special attention has been given to the study of this condition by Darier, Wickham, and others, who declare that the so-called psorosperm is a living animal parasite, which infests the human skin as well as the bodies of some of the lower animals. The psorosperm consists of a roundish or oval cell, containing one or more nuclei, the nucleus occupying but a small portion of the cell, the plasmic portion of which is extremely transparent and structureless. These bodies are found abundantly in a certain cutaneous disease described by Darier under the name of "*Psorospermose folliculaire végétante.*" They have also been found with great constancy in Mammillitis maligna (Paget's disease), and are the principal pathological feature of molluscum contagiosum. In 1876 the present writer, in describing the pathological anatomy of molluscum contagiosum, wrote as follows: "We find cells of peculiar aspect which appear to be developed from the rete cells in the following manner: The rete cells increase in size, their protoplasm undergoes certain changes (degeneration of

some sort), and the nucleus is pushed to the edge of the cell, where it becomes deformed and atrophied, and ultimately disappears. Following this, certain round, oval, or irregular, not very refractile formations, make their appearance within the cell, looking like the condition called 'vesicular degeneration' (Cornil and Ranvier). These increase in size, and finally coalesce and occupy the entire volume of the cell from which all trace of nucleus has disappeared. They now constitute the so-called 'molluscous bodies,' and are imbedded in a connective-tissue reticulum, which appears to be a hypertrophy of that which is normally present in the rete. Reagents failed in my hands, as in those of others, to throw any light on the nature of the transformations which take place. The true pathology of the affection, therefore, still awaits solution."*

This solution has been reached in the minds of certain foreign investigators by the assumption that the peculiar bodies in question are animal parasites—psorosperms. This view, however, though supported by strong evidence, fails to be wholly conclusive, as it does not appear to offer an adequate explanation of some of the observed facts.

Some ten or twelve years ago a certain Max Löwenstein presented himself as a patient at my university clinic, and was shown to the class as suffering from an "anomalous" affection of the skin, which I was not prepared to diagnosticate or classify. He subsequently came under the care of several dermatologists of this city, who considered it a case of lichen ruber, and one of whom excised a small portion of the skin, and described the sections as pertaining to lichen ruber, or rather based his statements concerning the pathology of this disease in part on the sections in question. At that time psorosperms were unheard of, and, though present in the specimens, were overlooked. In the spring of 1890 Dr. Lustgarten brought Löwenstein to my office, still suffering from his old disease. On this occasion I took the photograph here shown (Plate L), and also excised a small portion of the affected skin. From this piece Dr. Fordyce kindly prepared some thin sections, from one of which I made the accompanying photo-micrograph (Fig. 31).

* Elementary Treatise on Diseases of the Skin, New York, 1876, p. 345.

A history of Löwenstein's case, together with the photograph, was presented by Dr. Lustgarten at the International Medical Congress which met at Berlin in 1890. The case was accepted without question as being an example of the disease described by Darier as "*psorospermose*," etc. Quite recently a review of the specimens which were used in connection with paper on lichen ruber revealed the presence of psorosperms.

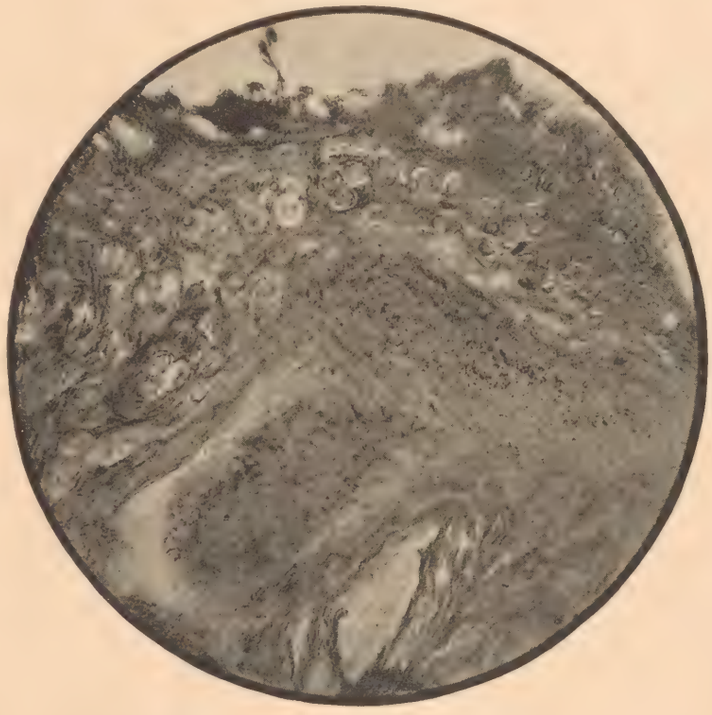

FIG. 31.—Photo-micrograph from a thin section of the Skin of Löwenstein, showing the so-called "Psorosperms."

During the early part of 1890 Dr. White, of Boston, described, under the name of keratosis follicularis, two cases, in which psorosperms were found, and claimed, on the one hand, that they were the same disease as described by Darier; and, on the other, the same as the affection described under the name *Keratosis follicularis* by Morrow, and referred to in the present treatise under the title of *Seborrhœa kerativa*. In this latter case the most careful examination of thin sections has failed to reveal the presence of psorosperms. The clinical history of the Löwenstein and the Morrow cases, and the gross appearance of the lesions, differ so widely that we are forced to the conclusion that Dr. White's claims are a little too comprehensive. His cases may have been examples of one or the other of the affections referred to, but can hardly have been of both, unless psorospermosis (Darier) and Seborrhœa kerativa are the same disease, which we are not, on the present evidence, prepared to admit.

If we accept the view that the so-called "psorosperm" is an animal parasite, we have yet to seek an adequate explanation of why it is present in such widely differing diseases as molluscum contagiosum, mammillitis maligna, lichen planus,

in which it has also been found, and in Darier's psorospermosis. If we go further, and accept the psorosperm as the cause of these affections, the matter becomes still more embarrassing. Comparing the diseases mentioned, we find molluscum contagiosum to be an acute, probably contagious, but trivial and readily curable affection. Mammillitis maligna is a chronic affection, which ultimately terminates in carcinoma. Lichen planus, though more or less chronic, never becomes malignant, and is usually if not always curable, while psorospermosis, as represented by the Löwenstein case, is typically chronic, and thus far has proved incurable.

To meet these difficulties, it has been suggested that perhaps there are several varieties of psorosperms, just as there are of pediculi, and that each is accountable for or to its own particular disease. We do not think, however, that even this hypothesis is sufficient to explain the widely differing clinical features of the diverse maladies in which this alien organism (?) is found. The strongest argument that has been yet presented in favor of the parasitic nature of the psorosperms is the fact that they greatly resemble certain other bodies met with in the lower animals, which are generally accepted as parasites.* It must be remembered, however, that resemblance is not identity.

Per contra.—Török, at the International Dermatological Congress, held at Paris in 1889, objected most strongly, on both biological and chemical grounds, to the parasitic theory.

With the above facts and statements before him, the writer has undertaken to examine the question from still another point of view, namely, the optical behavior of the bodies with polarized light; and this line of investigation was suggested by the statement of Wickham that the psorosperms were made specially evident by the use of picric acid in the preparation of the specimens. Now, picric acid is *par excellence* the reagent that possesses the greatest affinity for horny epithelium, staining it a brilliant yellow, while the Malpighian cells are not affected by it. Applying this test to the sections from the Löwenstein case, it was found

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* Balbiani (Leçons sur les Sporozoaires, Paris, 1884) places "psorospermosis oviformes" or "coccidies" among the sporozoaires, and the present objects are placed in the class *Oligospores* and genus *Coccidium*. Each of the coccidia subdivides into four spores, from each of which two falciform bodies are derived. These changes have not been observed, so far as I am aware, in the human body.

that the picric acid produced little or no effect. As there could be no reason to doubt the correctness of Wickham's observation, it forced us to the conclusion that the "psorosperms" were not always identical in chemical constitution; and that possibly they might at one time present the features of Malpighian cells, and at another time the characters of horny epidermis—in other words, that the latter condition was found in older and the former in the earlier stages of the development of these bodies; and that the pathological process was in reality nothing more than corneous degeneration of the cells of the rete.

Polarized light, like picric acid, is pre-eminently capable of differentiating between Malpighian and corneous cells. For instance, if a thin vertical section of the skin, preferably of the finger, be examined with polarized light, the stratum corneum will be brilliantly illuminated, while the stratum Malpighii will be invisible. To see if this would hold good in the case of pathological tissues, where cells of the rete type undergo corneous degeneration, the writer examined an epitheliomatous "pearl," in which the central mass consisted of stratified cells which had undergone corneous degeneration, and were surrounded by proliferated cells of the rete. Polarized light transmitted through such a body permitted the light that traversed the stratified cells to pass the analyzer, but not the light that was intercepted by the rete cells. In other words, the horny center of the pearl appeared brilliantly illuminated, as shown in the accompanying photo-micrograph (Fig. 32), while the rete cells were almost invisible. This clearly demonstrated that corneous cells of pathological formation behaved the same with polarized

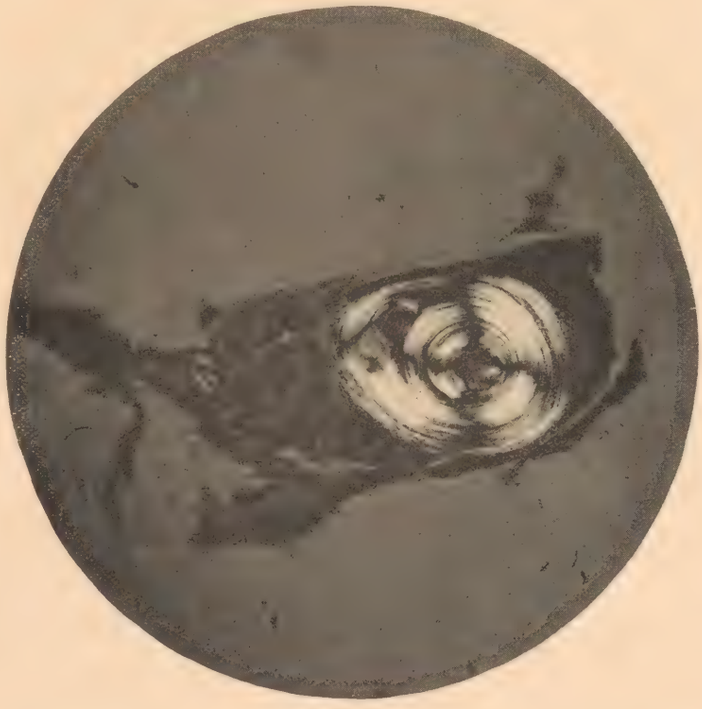

FIG. 32.—Stratified Epithelial Pearl. Photographed with polarized light.

light as did the normal horny tissue. To bring this experiment to a conclusion, and apply it to the question of psorospermosis, it became necessary to examine the so-called psorosperms in the same manner, but at different stages of their development. Some thin sections from a tubercle of molluscum contagiosum permitted this to be done. Submitting them to polarized light, we found that the more central, superficial, and older portion of the growth permitted the transmission of light, while deeper, peripheral, and younger portions of the growth behaved like rete cells. This is plainly shown in the accompanying photo-micrograph (Fig. 33).

FIG. 33.—A Tubercle of Molluscum Contagiosum. Photographed with polarized light.

From these observations I can arrive at but one conclusion, namely, that the so-called molluscous bodies, or psorosperms, are not (so far as molluscum contagiosum is concerned) animal parasites, but are simply rete cells undergoing a species of corneous degeneration, which tends to confirm the views advanced by me some fifteen years ago.

If now we divorce molluscum contagiosum from the group of psorospermoses, we find little of importance left except Paget's and Darier's diseases. If we recollect that the prominent feature of ordinary epithelioma is a proliferation downward of the rete cells, with here and there the formation of pearls, consisting of stratified horny cells, which are perhaps caused to assume this form in consequence of pressure, we can readily imagine that Paget's disease is in reality a superficial epithelioma, *ab initio*, in which the proliferation occurs laterally instead of vertically, but with the same tendency to the degeneration and cornification of the epithelial cells.

PLATE L.

This will leave the pathology of Darier's disease alone to be accounted for. The opportunities for the study of this affection have been thus far too limited to enable me to offer a decided opinion on the subject; but I can not help expressing the belief that further study will result in bringing it into the pathological group of epithelial degenerations rather than into that of animal parasites.

PLATE L. Psorospermosis. Case of Max Löwenstein.

INDEX.

Acid carbolic, 11.
  salicylic, 11.
Acne, 89.
Aconite, 11.
Alopecia areata, 148.
Anidrosis, 116.
Antimony, 11.
Antipyrin, 11.
Arsenic, 11.
Belladonna, 11.
Bromides, 12.
Bulla, 4.
Cannabis Indica, 12.
Chloasma, 95.
Chloral, 12.
Chromophytosis, 113.
Cinchona, 12.
Comedo, 86.
Copaiba, 12.
Dermatitis multiformis, 115.
Diagnosis, 1.
Digitalis, 12.
Drug eruptions, 11.
Dysidrosis, 118.
Eczema, 16.
  diagnosis, 21.
  erythematous, 18.
  etiology, 22.
  fissured, 18.
  nudose, 18.
  papular, 18.
  pustular, 17.
  seborrhœal, 120.
  treatment, 24.
  vesicular, 17.
Elephantiasis, 85.
Epithelioma, 68.
Erythema, 122.
  multiforme, 122.
Erythema nodosum, 123.
Favus, 105.
Fibroma, 77.
Fissure, 4.
Furuncle, 132.
Herpes, 125.
  labialis, 126.
  progenitalis, 126.
  zoster, 128.
Hyoscyamus, 12.
Ichthyosis, 144.
  hystrix, 146.
  simplex, 145.
Impetigo contagiosa, 131.
Iodides, 12.
Iodoform, 12.
Keloid, 78.
Leprosy, 59.
Lichen planus, 139.
Lichen ruber, 141.
Lupus, 62.
  erythematous, 62.
  exedens, 65.
  vulgaris, 64.
Macule, 3.
Mammillitis maligna, 134.
Milium, 86.
Molluscum, 133.
  contagiosum, 133.
  epitheliale, 133.
Morphœa, 82.
Papule, 4.
Pathology, 12.
Pemphigus, 114.
  foliaceus, 115.
  pruriginosus, 116.
  vulgaris, 114.
Phosphorus, 12.
Phtheiriasis, 102.
Phtheiriasis capitis, 102.
  corporis, 103.
  pubis, 103.
Pityriasis rubra, 142.
  (Devergie), 142.
  (Hebra), 143.
Prurigo, 136.
Psoriasis, 44.
Psorospermosis, 151.
Purpura, 135.
Pustule, 4.
Rosacea, 93.
Santonin, 12.
Sarcoma, 73.
Scabies, 98.
Scale, 4.
Sclerema neonatorum, 81.
Scleriasis, 81.
Scleroderma, 79.
Seborrhœa, 87.
  kerativa, 88.
  oleosa, 87.
  sicca, 87.
Sudolorrhœa, 120.
Sulphur, 12.
Syphilis, 49.
Treatment, 13.
Trichophytosis, 108.
  barbæ, 109.
  capitis, 108.
  corporis, 109.
  genito-femoralis, 110.
Tubercle, 4.
Ulcer, 4.
Urticaria, 124.
Vesicle, 4.
Vitiligo, 96.
Xanthoma, 147.
Zoster, 128.